

# American

JUNE

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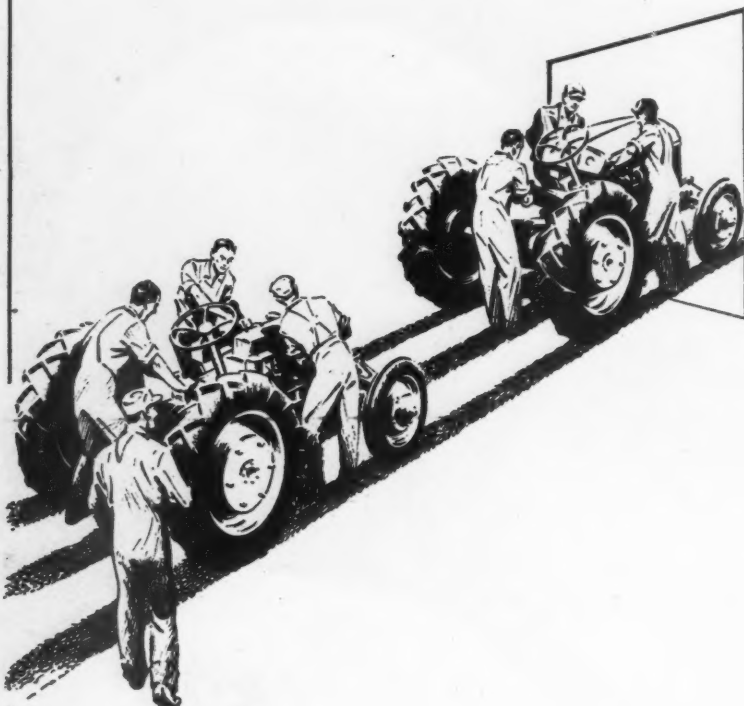
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PLANNING YOUR  
COLD STORAGE

**"As long as there's  
Farm Work to lighten...  
*we'll be Making Tractors*"**



Ford has built more than 1,300,000 tractors. Today, production of Ford Tractors is at the high point in history . . . and going higher.

More and more new tractors will go from Ford to the American farm in the days and years ahead.


These tractors will be strong, reliable, inexpensive to buy and run.

They'll be engineered and powered for real usefulness on *every* job.

They'll continue to have a hydraulic system and linkage attachment for implements . . . and implements now in use will work with them.

Dealers in Ford Tractors will keep right on supplying good, prompt service and genuine replacement parts for new and old models alike throughout America.

Count on continued and high level tractor production at Ford. Count on better and better tractors . . . year by year made more practical, more versatile, even thriftier. Ford will build tractors as long as there are farms, and farm work to lighten.



We at the Ford Motor Company believe that wealth and security come largely from the soil.

We are convinced that industry and agriculture are partners . . . and that it is our responsibility to help make farming easier, thriftier, more productive.

That's why the building of farm tractors is an important part of our present operation and future plans.

**F O R D M O T O R C O M P A N Y**

Entered as second-class matter at Post Office at Cleveland, Ohio, under the Act of March 3, 1879. Additional entry at Mount Morris, Ill.

**GROWER-PREFERRED!**

**GENITOX S50**

50% DDT SPRAY POWDER

GENERAL CHEMICAL COMPANY  
NEW YORK 6, N. Y.

Producers of The National General Chemicals and Compounds

ACTIVE INGREDIENT: Dichloro Diphenyl Trichloroethane (DDT) Solting Point 99°C (Minimum) Not less than 50.0%  
INERT INGREDIENTS: Not more than 50.0%  
© Reg. U. S. Pat. Off. Trade Mark General Chemical Company

## GENITOX\* S50 50% DDT Spray Powder

### IN THE SPRAYER

- 1 MIXES COMPLETELY**  
in hard or soft water
- 2 STAYS SUSPENDED**  
in spray mixture with agitation
- 3 DEVELOPS "FINE FLOC"**  
important for best spray coverage

### IN THE FIELD

- 1 HIGH DEPOSIT**  
on foliage and fruit
- 2 MINIMUM RUN-OFF**  
in spray drip
- 3 UNEXCELLED "KILL"**  
of codling moth and other insects

GROWERS who have been "through the mill" refuse to gamble the season's pack and profits on unknown and unproven insecticides. With them, growing apples is a business and they make certain that their spray programs are sound—having well-timed sprays—and, using only pest control materials with an established background of successful orchard performance.

ACROSS THE NATION informed growers have made General Chemical Company's soundly developed *Genitox S50*, the preferred DDT spray material. It has gained "first choice" position because of its built-in qualities ... because it is backed by thoroughgoing research and field investigation, and a manufacturing experience that spans nearly 50 years.

IN THE ORCHARD, growers quickly recognize

the outstanding performance of *Genitox S50* both for trouble-free action in the sprayer and for high insect control performance on fruit and foliage.

MOST OF ALL, growers have been impressed by the high deposits and better coverage *Genitox S50* gives. That's because its especially processed micron-size particles go into a finely flocculated suspension in the spray mixture. When sprayed, these fine particles tend to stay put where they hit with the very minimum of insecticide run-off.

THESE ARE ADVANTAGES YOU want and need in the DDT spray that goes on your trees; the advantages commercial growers everywhere have been getting with *Genitox S50* since its introduction. Order today. Accept no substitutes.



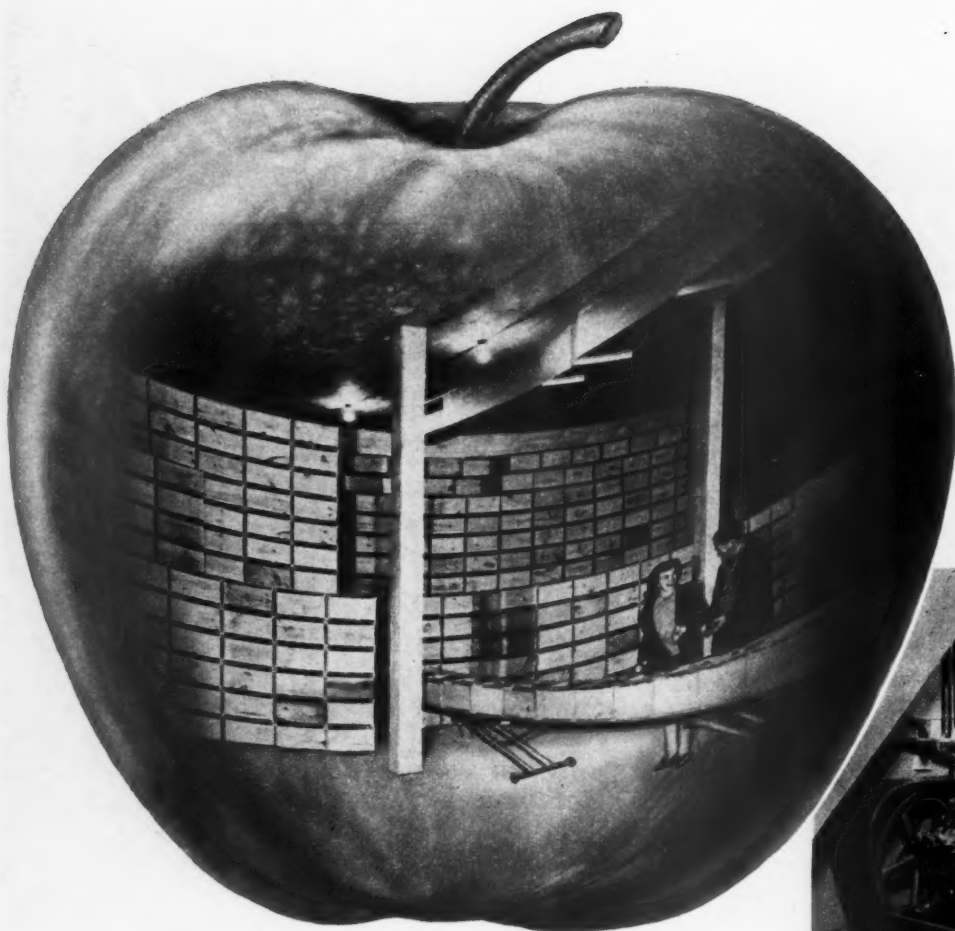
**GENERAL CHEMICAL COMPANY**

40 Rector Street, New York 6, N. Y.

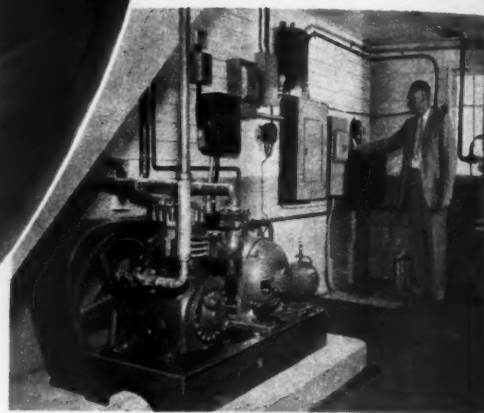
Sales and Technical Service Offices Serving Agriculture from Coast to Coast

\*Trade Mark General Chemical Co.





This ten horsepower G-E compressor keeps 10,000 bushels of apples harvest-fresh on the Merchant farm until they are shipped to market.



## How *Steve Merchant's* apple crop reflects a bigger return

IN OTHER YEARS Mr. Stephen Merchant of up-state New York might have worried about disposing of his ten thousand bushel apple crop. That's a lot more fruit than neighboring markets could consume at the best possible price.

But thanks to a modern General Electric cold storage system, Mr. Merchant's apples go to market throughout the winter and spring . . . with deliveries scheduled according to demand.

The apples are kept harvest-fresh by an automatic General Electric-equipped refrigeration

system with temperature and humidity controls. This equipment keeps the storage room at 33° F. and 88 percent relative humidity.

Like Mr. Merchant, many fruit growers are realizing that refrigerated storage of fruit is not only economical but that it means decreased handling charges and fewer transportation costs.

For full details on your own fruit storage needs, contact local General Electric distributor. *General Electric Company, Air Conditioning Dept., Section 8606, Bloomfield, New Jersey.*

**GENERAL  ELECTRIC**  
**Commercial Refrigeration**

AMERICAN FRUIT GROWER

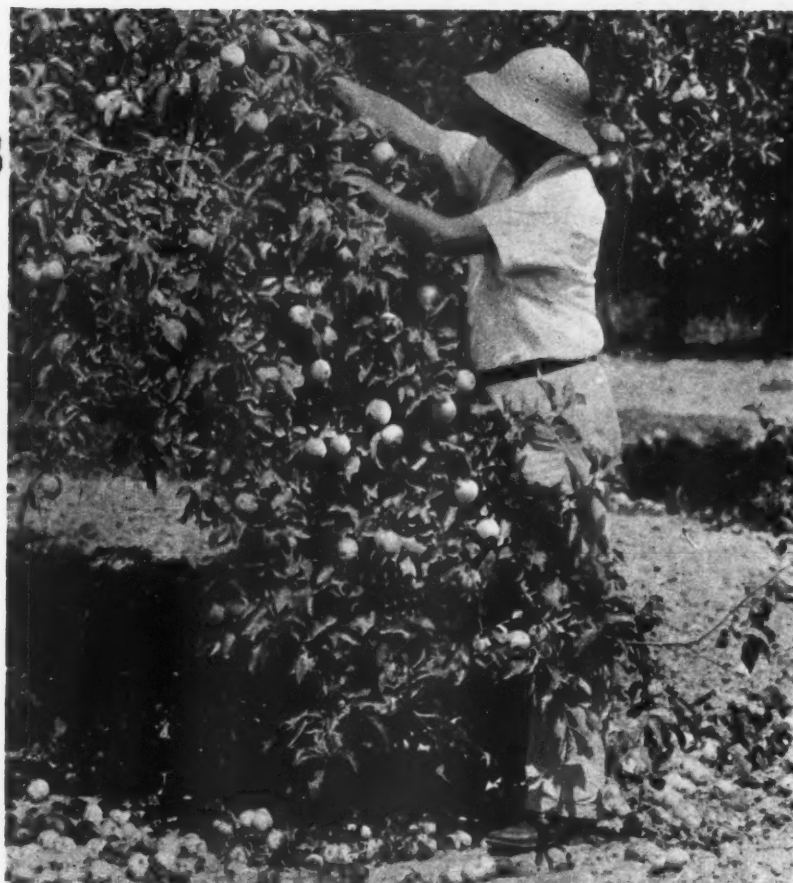


# New Chemicals Cut Expenses For Many Farm Jobs

G-E compressor  
s of apples har-  
chant farm until  
market.



**CODLING MOTH** damage with heavy mid-season drop (right) is a thing of the past for most apple growers. Du Pont DEENATE DDT sprays help to assure complete control of this pest, just as other Du Pont chemicals improve returns from other farm enterprises.



Orchardists who get the greatest returns for their work are always on the lookout for new and better ways to do routine jobs. New spray and dust chemicals now cut the cost of some of the toughest farm tasks and increase the output for each dollar spent.

For instance, weed control is now easier and cheaper for farmers who use Du Pont 2,4-D and AMMATE Weed Killers. One spraying of AMMATE kills both roots and tops of poison ivy, poison oak, sumac, wild blackberry and chokeberry. It kills stump sprouts and speeds the decay of stumps.

One application of Du Pont 2,4-D kills most weeds

in fence rows, ditches, terrace outlets and drainage canals. It destroys tops and prevents seeding of many deep-rooted plants, including Canada thistle. Du Pont 2,4-D is concentrated, contains 83.5% active ingredient (75.9% acid equivalent). It mixes easily, even in hard water, and stays mixed.

Du Pont DEENATE DDT is highly effective against codling moth and also many insects of vegetables and livestock as well as fruit.

For further information about these and other Du Pont products, write to the Du Pont Company, Grasselli Chemicals Dept., Wilmington 98, Delaware.



**DU PONT AMMATE** can be used either as spray or applied dry to ground.

**DU PONT**

*Pest Control Products*

**INSECTICIDES:** DEENATE\* DDT, GRASSELLI\* Lead Arsenate, NUREXFORM\* Lead Arsenate, LEXONE\* 50 (Hexachlorocyclohexane), LORO\* Contact Insecticide, Calcium Arsenate, Paris Green, ALCOA\*\* Cryolite, BLACK LEAF† 40, Oil Sprays, Rotenone 5%.

**FUNGICIDES:** FERMATE\* and ZERLATE\* Organic Fungicides, COPPER-A Compound, SULFORON\* and SULFORON-X\* Wettable Sulfurs, Bordeaux Mixture.

**OTHER MATERIALS:** 2,4-D WEED KILLER, AMMATE\* Weed Killer, Du Pont Spreader-Sticker.

\* Reg. Trade Mark of E. I. du Pont de Nemours & Co. (Inc.)

\*\* Reg. Trade Mark of Aluminum Co. of America

† Reg. Trade Mark of Tobacco By-Products & Chemical Corp.

BETTER THINGS FOR BETTER LIVING  
...THROUGH CHEMISTRY



REG. U.S. PAT. OFF.

# DON'T LET YOUR FRUIT LOSE ITS GRIP USE *Thompson's* **FRUIT FIX\***

## APPLE and PEAR NO DROP\*

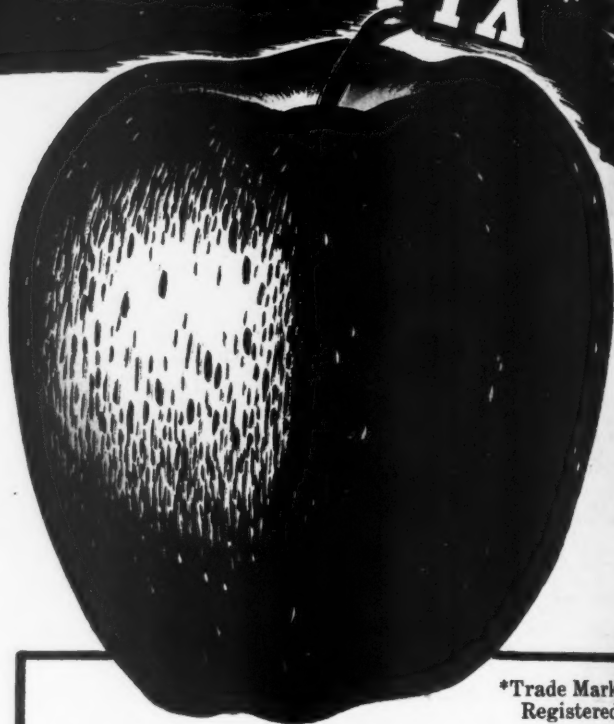
The economical NAPHTHALENEACETIC ACID Fruit Spray for the prevention of Pre-Harvest Drop.

**FRUIT FIX** used according to recommendations delivers 50 GRAMS OF NAPHTHALENEACETIC ACID plus other useful hormones per acre. The use of NAPHTHALENEACETIC ACID sprays by apple and pear growers to control pre-harvest drop is economically sound — to reduce windfalls — to hold fruit for a single picking of optimally ripe fruit — to eliminate spot picking — to save labor — and to insure a more profitable crop.

**FRUIT FIX** does all these, and at a minimum cost.

Manufacturers of **FRUIT FIX**, Tomato Fix, Pineapple Fix, Winesap **FRUIT FIX**, and Potato Fix.

Orchardists and Orchard Supply Houses write today for full information and prices.



\*Trade Mark  
Registered

### *More Profitable Agriculture* **THROUGH SCIENTIFIC CONTROL**

**FRUIT FIX** — is backed by careful scientific research and control.

**FRUIT FIX** — is available in a form for every requirement — Liquid Concentrate — Powder — Oil Type Concentrate — Airplane spray — Dust.

**FRUIT FIX** — is standardized to deliver 50 grams of NAPHTHALENEACETIC ACID per acre.

**FRUIT FIX** — will not clog equipment or jet sprays and gives uniform coverage.

**FRUIT FIX** — is easy to dilute with minimum of handling.

**FRUIT FIX** — is highly economical and treats more trees per dollar.

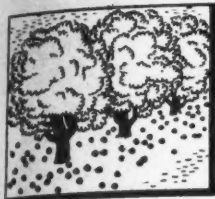
# TREAT MORE TREES PER DOLLAR with **FRUIT FIX\***

The Economical **NO DROP\*** for APPLES and PEARS

## WHAT YOU SHOULD KNOW ABOUT *Thompson's* **FRUIT FIX**

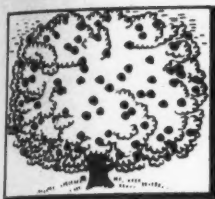
\*Trademark Registered

### Pre-harvest Drop



The drop of apples and pears before harvest results in losses which frequently reach serious proportions. As the fruit matures, it also loosens on the fruiting spurs and falls at the slightest provocation. The loosening is due to the formation of an abscission layer between fruit stem and spur. To stop fruit drop it is necessary to stop normal development of this abscission layer.

### FRUIT FIX No Drop contains NAPHTHALENEACETIC ACID



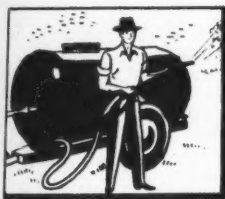
FRUIT FIX contains the plant growth regulator or hormone NAPHTHALENEACETIC ACID and supplies 50 grams per acre. When FRUIT FIX is applied to the trees about the time pre-harvest drop occurs, formation of the abscission layer is retarded and the fruit does not loosen at the usual time. The use of FRUIT FIX makes certain that fruit drop will be delayed from one to four weeks, depending upon the variety and weather conditions. Nearly all varieties need but a single treatment. McIntosh apples, however, are very prone to drop and two applications of FRUIT FIX, 5 to 10 days apart, may be needed on the portion of the orchard which is to be picked last.

### Time to Apply



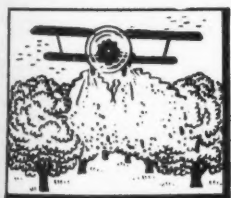
In general, FRUIT FIX becomes effective within two or three days after application. In cold weather it takes a little longer but has the advantage of remaining effective an additional length of time. It is important to watch closely for the drop of sound fruits. FRUIT FIX should be applied soon enough to prevent heavy drop but not so early that its effectiveness is lost before the fruit is picked. FRUIT FIX should not be used with the view of holding the fruit on the trees much beyond the usual picking time because such fruit becomes too mature to store well.

### How to Use



In order for FRUIT FIX to become effective it is necessary to have the spray solution contact all the fruit stems or the leaves on the spurs bearing fruit. From either of these places there is a translocation of the NAPHTHALENEACETIC ACID to the zone of abscission where the hormone exerts its effect. FRUIT FIX should be sprayed over all parts of the tree to insure a complete contacting of all fruits. A great deal of the efficiency of the spray solution depends on the thoroughness of coverage. Spraying one part of a branch does not give control of fruit drop on another part of the same branch. Each fruiting spur must be wetted by spray.

### FRUIT FIX for Conventional or Airplane Spraying



FRUIT FIX powder — 5 lbs. make 1200 gals. — treats 1 acre of mature trees.

FRUIT FIX liquid — 6 qts. make 1200 gals. — treats 1 acre of mature trees; 6 qts. make 5 gals. of airplane spray.

FRUIT FIX Oil type Concentrate — 6 qts. make 1200 gals. — treats 1 acre. 6 qts. make 5 gals. of airplane spray — treats 1 acre.

FRUIT FIX airplane application — dilute 6 qts. of FRUIT FIX to 5 gals. Treats 1 acre.

FRUIT FIX dust — the dust is recommended only where climate conditions are favorable. For sprayers which disperse 10 or 15 gals. of liquid per acre use 6 qts. of FRUIT FIX Liquid and add as much water as is necessary to make the desired volume. Airplane spraying for the prevention of fruit drop is as effective as ordinary spraying, provided good coverage with the spray solution is obtained. When doing airplane spraying, the production of a very fine mist is necessary, otherwise the fruits will be incompletely treated.

Winesap **FRUIT FIX** — the most economical spray for winesap and stayman winesap apples.  
**FRUIT FIX** the economical **NO DROP** for Apples and Pears treats more trees per dollar.

Manufacturers of **WEEDICIDE** the efficient 2,4-D weed killer





## ... DEATH-DEALING FOG FOR INSECTS

TIFA is the **QUICK . . . SURE . . . ECONOMICAL** method of insect pest control.

TIFA discharges newly developed as well as the older insecticides, fungicides, repellents or hormones in a *true fog* that *spreads quickly* over wide areas . . . *clings* to all objects in its path . . . *permeates* the smallest crevices.

TIFA . . . a compact, easily handled one-man unit, powered by a standard-make gasoline engine . . . can be used wherever insect pest control is essential . . . especially in orchards, on farms and ranges. And it's **BUILT TO LAST.**



Write for illustrated folder on sensational TIFA—full details on how it operates, what it does, and official comments on its astonishing effectiveness.



**TODD INSECTICIDAL  
FOG APPLICATOR**

**A Product of  
COMBUSTION EQUIPMENT DIVISION  
TODD SHIPYARDS CORPORATION  
81-16 45th Avenue, Elmhurst, Queens, N. Y.**

JUNE  
VOL. 67

1947  
No. 7

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AMERICAN FRUIT GROWER

# You, too, can win your battle against Codling Moth with GESAROL AK 50



Clearbrook, Va.  
October 25, 1946

**GEIGY COMPANY, INC.**  
89 Barclay Street  
New York 8, New York

Gentlemen:

I have used your Gesarol AK 50 during the past season on my apples and codling moth control has been most satisfactory. In fact, stings and wormy apples are so seldom found in our grading operations that codling moth no longer appears to be a pest in my orchard.

I have felt on several occasions that I should write to you commenting on the handling properties of Gesarol AK 50. We add it to the sprayer tank when it is being filled and dispersion in the water is rapid without any foaming. This point is very important for excess foam can cause a lot of trouble in tank filling. It looks to me like the material wets about right. This probably is the reason it sticks well to the foliage and fruit.

Very truly yours,  
*Lee O. Dick*

Why should you let codling moth continue to be a major problem? There is ample evidence — of which the letter reproduced here is typical — that spraying with GESAROL\* AK 50 reduces stings and worm entries almost to the vanishing point.

Here is a DDT formulation developed by Geigy Company — "Originators of DDT Insecticides." It is backed by eight years of experience in DDT compounding and application.

You can buy GESAROL AK 50 with confidence — use it with every assurance that it will give you *maximum results*.

If you find GESAROL AK 50 is not available locally simply send us the name and address of your dealer.

\*Reg. U. S. Pat. Off.

GEIGY INSECTICIDES OFFER YOU  
PROVEN PERFORMANCE—BACKED  
BY 8 YEARS OF EXPERIENCE



**GEIGY COMPANY, INC.**  
89 BARCLAY ST., NEW YORK 8, N. Y.



ORIGINATORS OF  
**DDT**  
INSECTICIDES

# POWER That Pays Off



YOUR ORCHARD power problems are solved with McCormick-Deering Orchard tractors and spraying equipment powered by International engines.

Here is a 500 gallon spray rig with a 30 to 35 gallon-per-minute capacity, handling a typical orchard spraying job. Powered by an International U-2 power unit, this spray rig can be depended on to perform efficiently.

The famous McCormick-Deering OS-6 Orchard tractor, built especially for fruit growers, has all the features orchard men want and need. Five forward speeds, differential steering brakes, easily handled controls and complete operator comfort, make this tractor ideal for orchard work.

See your IH dealer for facts and figures on McCormick-Deering Orchard tractors. Depend on equipment powered by International engines to give you peak performance. They add up to power that pays off in profits.

**INTERNATIONAL HARVESTER COMPANY**  
180 North Michigan Avenue Chicago 1, Illinois

**IH INTERNATIONAL HARVESTER**

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# LETTERS TO THE EDITOR

## I Want to Make Fruit Products

Gentlemen:

Large quantities of fruit are grown in the region in which I live, yet there is no plant in the immediate area that packs fruit products.

I am trying to start a small apple juice plant with the hope of expanding into other items, and I have visited other apple juice plants in Michigan trying to get information on processes and costs.

Opinion seems to be greatly divided here as to whether a clarified or cloudy juice is best. The consumers I have talked to seem to be indifferent in the matter, being interested only in the flavor. However, a certain amount of cloudiness seems to be associated in their minds with good flavor, whether this is right or wrong. From what I can learn there is little difference in the actual flavor or wholesomeness of the juice whether it be cloudy or highly polished, although eye-appeal is in favor of the latter.

What are the available sources of information on the processing of fruits? Are there books, pamphlets, government or private agencies that you can recommend? Grand Rapids, Mich. D. L. Brockmeier

According to W. V. Cruess in his article "Recent Developments in Fruit Juices" in AMERICAN FRUIT GROWER, November, 1944, the trend seems to be toward a slightly cloudy juice, with an emphasis on pleasant taste. Some people do believe that a clear juice does not have the body, and consequently the same quality of taste as a cloudy juice.

State Experiment Stations publish much information on canning and fruit processing: California, New York, Indiana, Georgia and Michigan Stations having good material on the subject. For a mimeographed list of the Experiment Station addresses, readers may write to AMERICAN FRUIT GROWER. —Ed.

## Don't Let the Woodchucks Chuck!

Dear Sir:

Can you advise me of some kind of rodent repellent that can be used to keep woodchucks away from my peach trees? Wilmot, Ohio Henry J. Hochstetler

The best way to control woodchucks is by smothering them in their dens in the springtime when they are most active. One of the most effective methods is to pump calcium cyanide dust into the dens with a foot pump or hand duster. A half-dozen strokes of the plunger should be sufficient, then close the entrance (and exit) tightly with clumps of inverted sod.

Extreme care must be used that you do not breathe any of the dust, since it is a deadly poison to human beings. When spraying or dusting, be sure to stand to the windward side of the spray. —Ed.

## Apple Patent

Gentlemen:

I have an apple tree which I believe to be a bud sport of good quality. Where should I send a sample of this apple for identification and for all information regarding occurrences of this kind? Chesterhill, Ohio Eli C. Rowland

Almost all patents are issued through patent attorneys who can handle the many processes of securing a patent that would cause you considerable inconvenience other-

wise. For complete information on this subject, we suggest that you write to the U.S. Govt. Patent Office, Washington, D.C.

For identification of varieties, we suggest sending samples to the state Agricultural Experiment Station. They will be glad to check on the identification of your sport. —Ed.

## Reader Likes Blueberry Article

Dear Sir:

I enjoyed the article by C. W. Hitz on "Low-Bush Blueberries," and hope to see more by this writer as the work of the new Maine Experiment Station progresses.

I would like to change the Editor's note on that word "superior" high-bush, because, naturally, as a low-bush grower, I don't agree. I will, however, concede that they have their place for the fellow who doesn't live in blueberry country and wants to grow blueberries. Lincolnville, Me. C. R. Felton

## Maple Wood Packed Jelly

Dear Sir:

Some years ago there used to be a fruit jelly on the markets which was sold in wooden pails. I do not know the trade name of the product, and it is difficult to describe it because it seemed to have all the fruit flavors. Its texture was similar to that of Jello, it had an apple base, and was perhaps so exceptionally delicious because it was packed in maple wood pails.

I would like to know whether some such item is being produced, and if so, could someone tell me where it can be obtained. Milwaukee, Wis. C. F. Mishka

Do any of our readers who remember this delicious jelly from childhood days know where it can be found today? —Ed.

## Are Boysenberries Hardy?

Dear Sir:

Can you tell me if it is possible to grow Boysenberries, Youngberries, or Loganberries, at Albany, N.Y.? Delmar, N.Y. R. E. Plauth

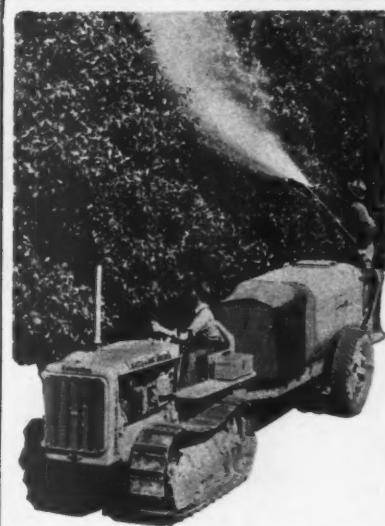
It is possible to grow these berries in northern areas, but they are not hardy, and must receive special winter care. They can be taken down from their trellises in fall and laid out on the ground, then covered with a mulch which will protect them through the winter. —Ed.

## Artificial Pollination

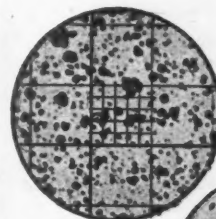
Dear Editor:

I have been very much interested in methods of pollination other than bees and insects. Could you refer me to any one who has used a wind machine for pollination? Rootstown, Ohio Ray M. Laird

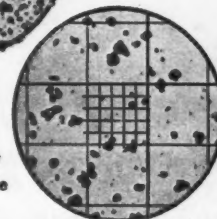
After extensive experimentation in the Pacific Northwest, it has been found that artificial pollination by spreading free pollen through the air by dropping from airplanes or exploding it from bombs is not dependable. We do not know of anyone who has tried it with wind machines, but experiments seem to show that the direct hand brush method gets a better set of fruit. —Ed.



For maximum, even coverage, use **ALCOA Cryolite!**



ALCOA Cryolite



Ordinary Insecticide

The particle size of ALCOA Cryolite insecticide is carefully controlled—not too small, not too large—but just right for a maximum, uniform deposit.

Look at the photomicrographs, above, which show the particles enlarged 500 times. Notice the more even distribution and more uniform size of the ALCOA Cryolite. Don't experiment... use ALCOA Cryolite! Its effectiveness for controlling chewing insects has been time-tested and proved.

Ask for free folder containing spraying and dusting chart and other useful information on ALCOA Cryolite. See your dealer or write:

**ALUMINUM COMPANY OF AMERICA  
CHEMICALS DIVISION  
1737 Gulf Bldg., Pittsburgh 19, Pa.**

Alcoa Cryolite is manufactured by Aluminum Ore Company. Formerly sold under the trade name "Alorco".



**ALCOA  
CRYOLITE INSECTICIDE**



Above left — The original packing and 6000 bushel storage house built in 1934-5.

Left—Harry Lutz, owner of the Sand Hill Fruit Farm.

Above right—The new cold storage.

Right — This power lift can handle 30 crates at a time.



## MY FIRST STORAGE WAS GOOD *My Second Better*

**An Ohio grower plans and builds a new cold storage to improve and lengthen his marketing season**

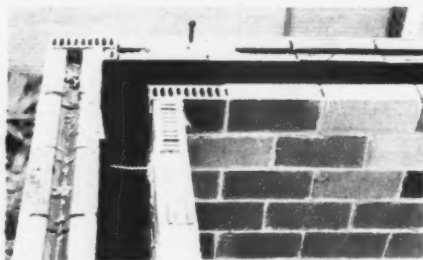
**M**ANY alert fruit growers are thinking in terms of better storage facilities as an essential aid to the profitable distribution of their crops. One such grower is Harry Lutz whose Sand Hill Fruit Farm near Carroll, Ohio, covers 185 acres, and will eventually be expanded to 240 acres, mostly planted to apples.

Lutz built his first apple storage in 1934-35, and now, to take care of increased production, he has built another. In ten years' time, production on the Lutz farm has increased from 15,000 to 20,000 bushels annually, and it is expected to climb to twice this figure in the future.

To accommodate this increase, Lutz built a new storage with a 15,000 bushel capacity. This, combined with the old 6,000 bushel building, gives a total storage capacity of 21,000 bushels, or half of the expected future production.

The first Sand Hill storage was of frame construction, accommodating a 6,000 bushel storage room in one end, a large packing room in the middle, and a tool room in the other end. It was built as a common stor-

age for later conversion to cold storage. The conversion was done by closing the openings which permitted entrance of outside air, this



Wall construction consists of an outer and an inner wall, with ground cork insulation between.



The storage has only three openings, one for loading, one for electrical equipment, and one for the door.

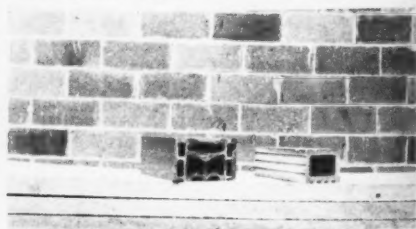
usually being the most difficult point in converting a common storage. However, if the building is constructed with this in mind, the operation is less difficult.

The new storage is built of tile, which Lutz considers to be a decided advantage over lumber construction. The insulating qualities of hollow tile walls are greater than those of wood and will last longer. Tile walls

(Continued on page 25)



The completed wall is 18 inches thick. The square opening (center) is for moving the apples from the storage.



The tile on the left was used on the outside wall, and the tile on the right was used on the inside wall.

**AMERICAN FRUIT GROWER**



# BUILD FOR TOMORROW

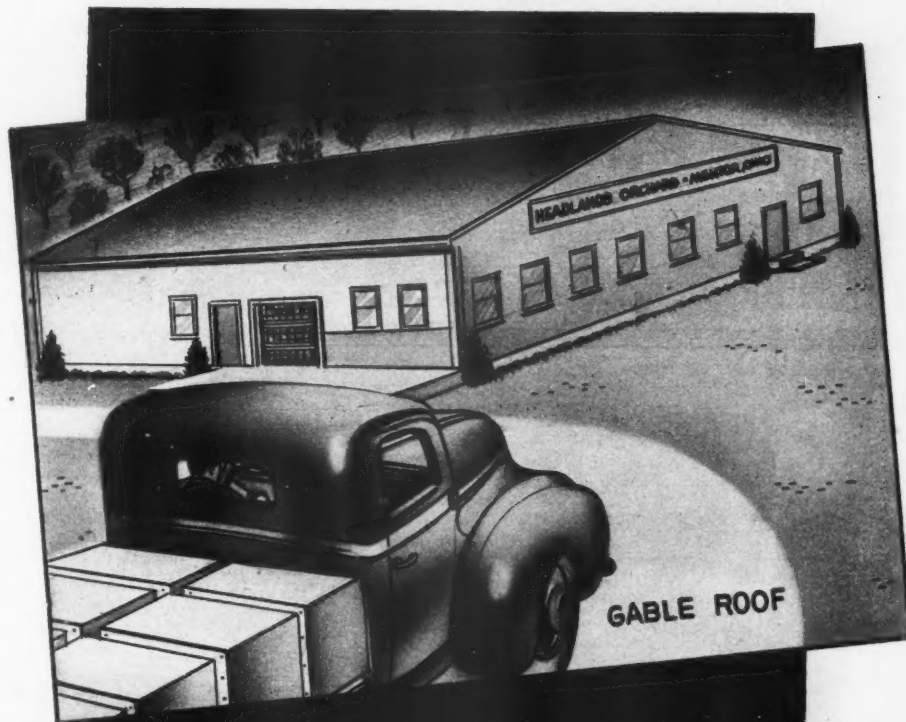
## *When You Build Today*

**American Fruit Grower Model 10,000 Bushel Cold Storage and Packing House can be Enlarged and has Many Noteworthy Features**

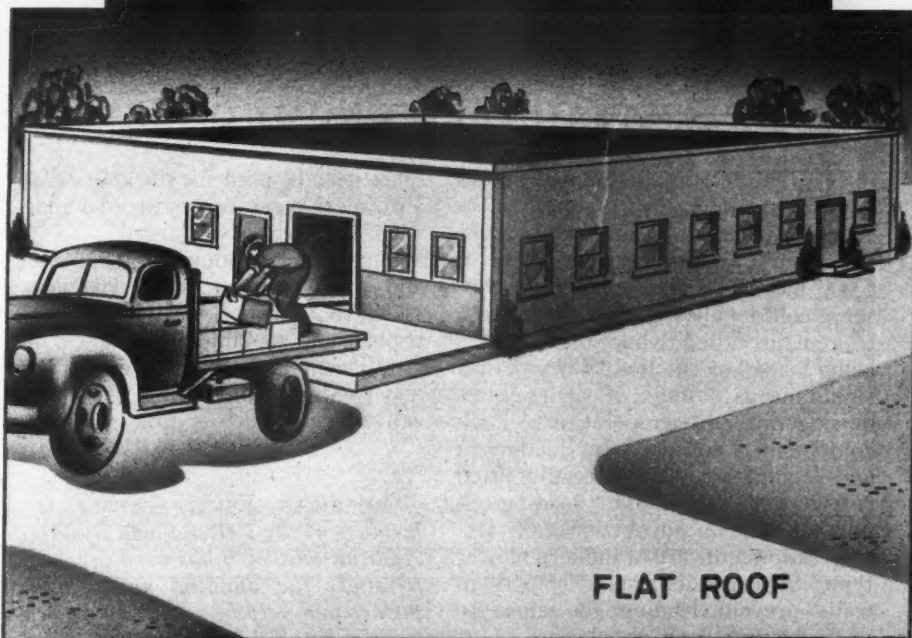
FOR GROWERS who want controlled marketing through the use of their own cold storage facilities, a storage and packing house economical in construction and efficient in operation is a necessary part of a well-run orchard business. Experience has shown that many storages erected with the best intentions and considerable expense have not fulfilled their promise. Unlike planning for other orchard operations, cold storage design, once decided upon, must be lived with unless costly remodeling is done.

The model 10,000 bushel capacity cold storage and packing room presented on these pages by AMERICAN FRUIT GROWER features simplicity of construction and a design insuring the best in operational efficiency. The building may be constructed with either a gable roof or a flat roof as shown in the artist's conception at right. Growers in southern areas may prefer the flat type roof construction in which the insulation may be incorporated with the roofing. For growers in northern areas where snow loads are a factor in roof design, gable roof is preferable.

The storage is designed to make expansion to 20,000 bushel capacity easy and economical. Thus the storage is planned so it can grow with the orchard. Building and insulation material has not been specified in these plans, and may be varied to fit the builder's preference. For floor plans and elevation turn the page.

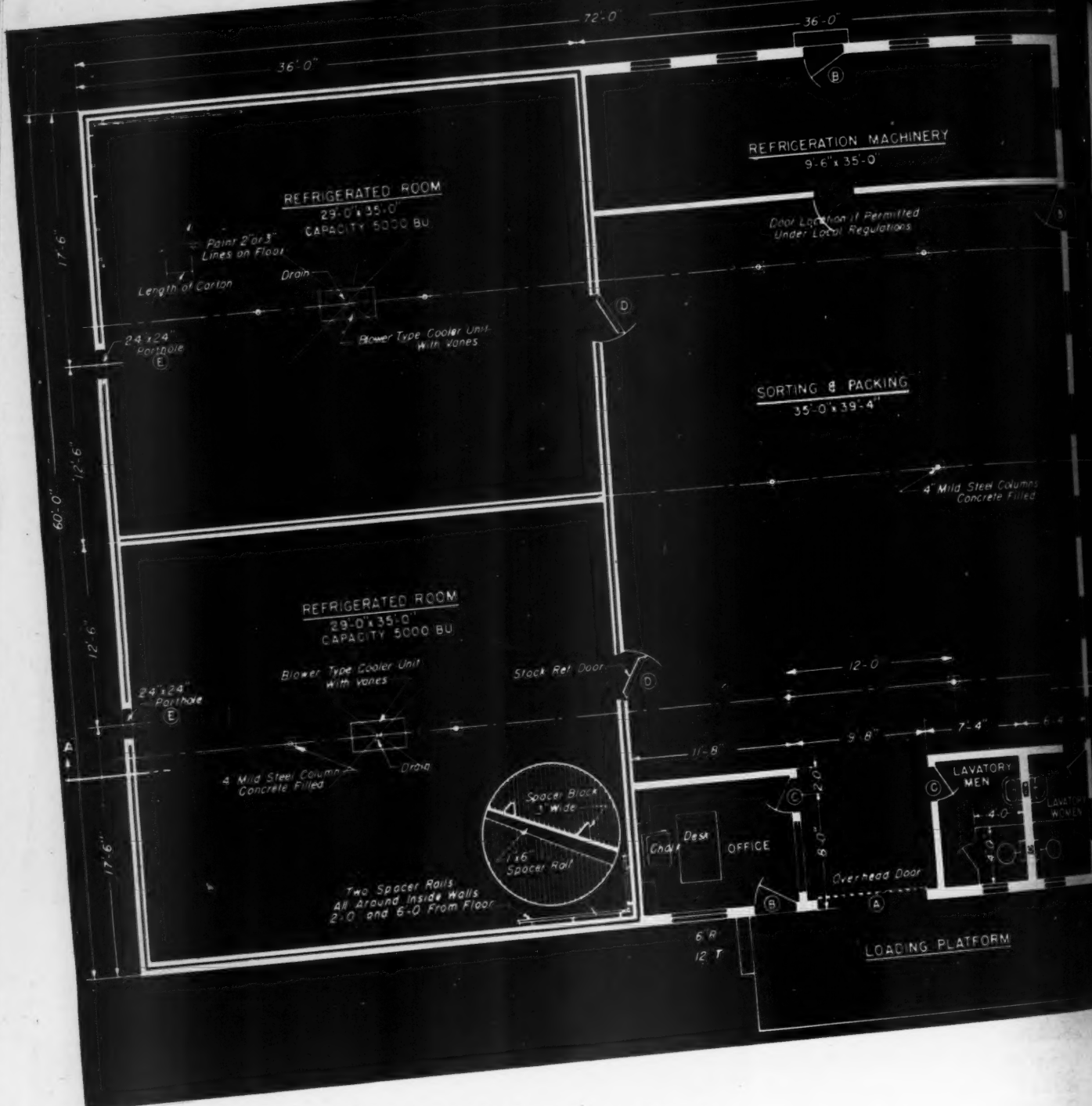


GABLE ROOF



FLAT ROOF





## FLOOR PLAN FEATURES ECONOMY OF SPACE

**T**HE FLOOR plan, above, shows how the storage is planned in a square pattern for economy of construction. Two refrigerated rooms, of 5,000 bushel capacity each, help conserve cold by allowing one filled room to remain closed while the other is being loaded or emptied. They permit simultaneous storage of varieties requiring different temperatures. Each cold room is equipped for loading-in and loading-out with specially fitted refrigerator doors. The loading-out portholes are on the outside wall. Refrigeration units are of modern blower type. Spacer rails around cold room walls prevent loading too close to walls for proper air circulation.

Refrigeration machinery is installed in a separate room large enough for four compressors, but only half of this

space need be used for the above plan. Two more compressors may be added when the storage is enlarged.

The large, window-lighted sorting and packing room is a convenience which most owners desire. The office is placed at the building entrance, and is adjacent to both loading platform and packing room. The lavatory is a convenience which is optional.

AMERICAN FRUIT GROWER is a member of the Better Farm Buildings Association which has been organized to study the building needs of the farmer and help him build more practical and useful buildings. The Association has joined hands with us in designing the storage and packing house shown on these pages.



EFFICIENCY THROUGH FUNCTIONAL DESIGN

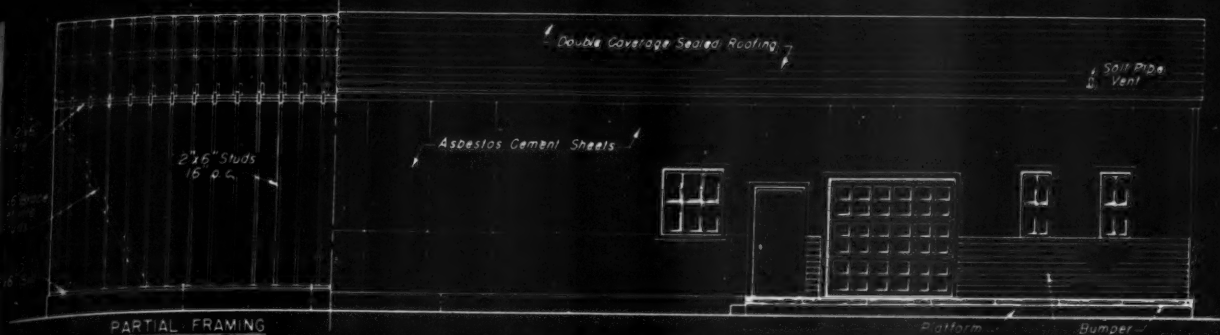
PREPARED BY  
AGRICULTURAL ASSOCIATES INC. ARDSLEY, N.Y.

**AMERICAN FRUIT GROWER**

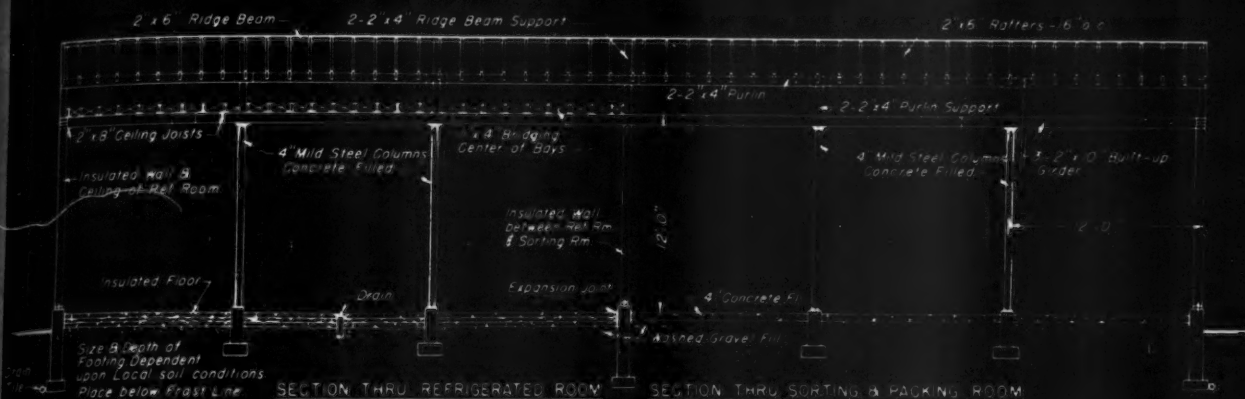
(10,000) BUSHEL

**REFRIGERATED APPLE STORAGE  
AND  
PACKING ROOM**

**AMERICAN FRUIT GROWER**

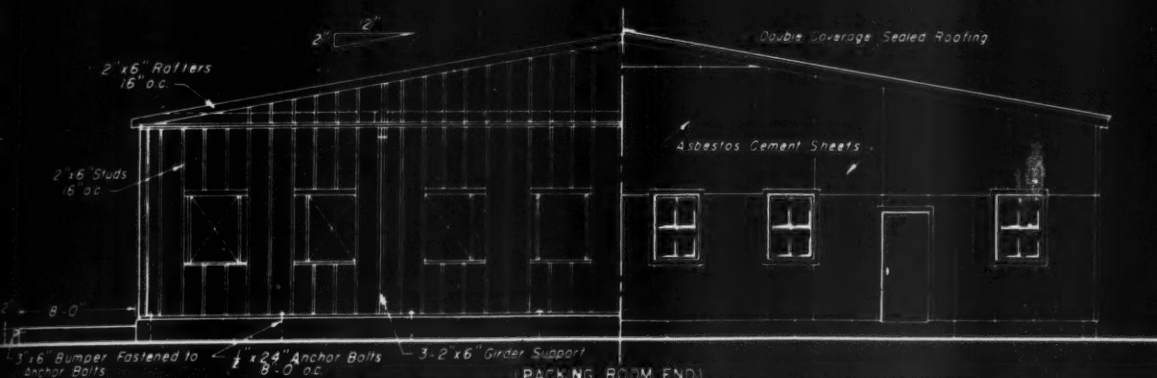


FRONT ELEVATION



SECTION "A-A"  
(FRAMING)

NOTE: This Building must be built on well drained site.



HALF END FRAMING

HALF END ELEVATION

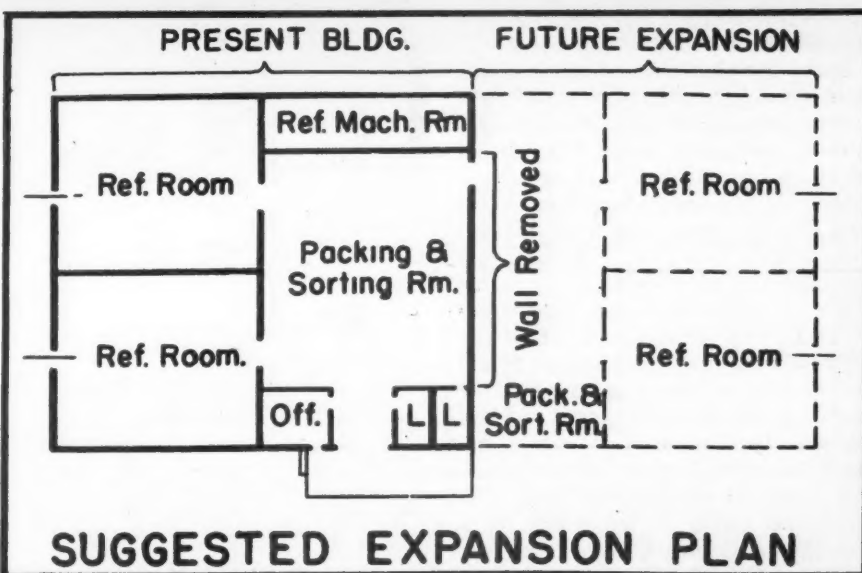
## CONSTRUCTION DETAILS OF SIDE, END ELEVATIONS

FRONT and end elevations, above, of the storage show both interior construction detail and siding detail. Concrete filled steel posts are used throughout the building for ceiling support.

The floor of the storage is insulated with the equivalent of four inches of cork insulation, set between two three-inch layers of concrete.

The overall ceiling is 12 feet high, but may be lowered to eight feet over the packing room (in the gable roof building) to provide attic storage for packaging material.

To the right is the suggested expansion plan. The addition provides for two 5000 bushel capacity cold storage rooms, thus increasing the storage capacity to 20,000 bushels. Space is provided in the original refrigeration room for machinery to take care of the additional load of the enlarged storage.



SUGGESTED EXPANSION PLAN

### FOLLOW THESE PLANS WHEN YOU BUILD

A complete set of detailed working plans to be used for the construction of this storage is available to readers. The plans consist of four sheets, and will be mailed upon receipt of \$1.00. Write to Plans Dept., American Fruit Grower, 1370 Ontario Street, Cleveland 13, Ohio.



Photo from Appalachian Apple Service.

# How Big SHALL I BUILD?

## PROFITABLE RATIO OF PRODUCTION AND STORAGE

**M**ANY prospective cold storage owners believe that the question of how large to build is about as difficult as the old poser "how high is up?," yet it is not quite that bad. There are certain factors to be considered from which the grower can judge fairly well how large a storage he will need, so that, with careful planning, he can build a cold storage that will give him satisfaction for many years.

Some growers plan to store all of their fruit, whereas others put into storage only a part of their crop. The ratio of storage to production, determined by successful cold storage operators, ranges from 50 to 100 per cent, according to a survey made by AMERICAN FRUIT GROWER. The average percentage of these is 79.

The amount of the crop to be stored is determined by deducting from the average total expected annual yield the amount of the crop that will be sold or processed immediately. When this has been done, you know how many bushels of fruit will be stored at the peak of each normal year.

Average yield is suggested as a measure because each extra cubic foot increases the cost of materials and refrigeration, and it would be better for you to keep the storage filled to capacity each year than only partly filled except in bumper years. You should count on the yield from trees that are now immature, and from any



20,000 BU.



6,000 BU.

that you intend to plant in the near future. Besides the yield of your own orchard, you should consider whether you intend to store fruit for other growers.



40,000 BU.

The amount of refrigeration machinery to be needed should be considered in regard to size of the building. Perhaps a saving could be made in space and materials if the refrigeration equipment were housed separately in a small, uninsulated room. This and the number, sizes, and shapes of other rooms should all be considered in determining size.

Finally, one of the most rigid factors in determination of size will be the cost. A well equipped and insulated cold storage will be expensive, and the grower must be sure that his costs will not be greater than the profits to be derived from the project. However, it is interesting to note that in a recent survey made by AMERICAN FRUIT GROWER, 23 per cent of all storage owners queried, would increase the size of their storages, while none expressed desire for smaller one.

The fact has been established that a large storage is more economical to build than a small one, because it contains less wall, ceiling, and floor area

(Continued on page 26)

AMERICAN FRUIT GROWER



chian Apple Service.



and have had much experience in operating them. The answers, while covering a great variety of conditions, should be studied by all who are planning such building investments.

"If I were building over again, I would choose my mechanical equipment more carefully and be sure I had enough refrigeration," said many cold storage operators on their questionnaires. They explained further that they would be sure to install enough refrigeration to make the cost of their insulation and build-

(Continued on page 30)

## IF I DID IT OVER AGAIN

### Survey of Changes Growers Would Make in Storage Buildings

THERE are so many important details in erecting a building that even the most carefully engineered and supervised structure usually has one or more things that later could be changed. Minor changes, though frequently costly, can usually be made, but structural improvements, with few exceptions, are impossible.

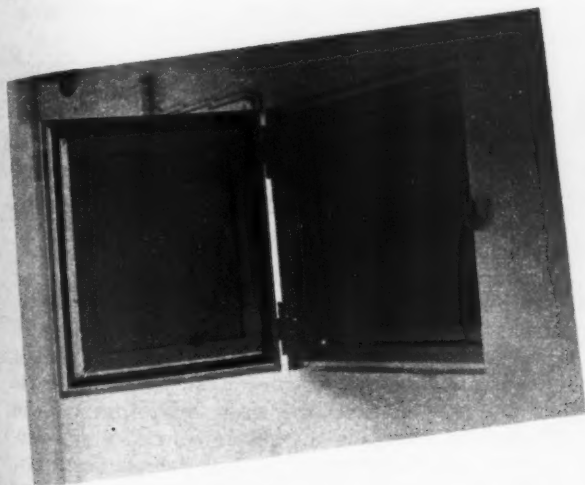
The thing then is to avoid getting into the position of wanting to do it over again.

What are changes that owners would make in redesigning their cold storages? This is a question that AMERICAN FRUIT GROWER addressed to hundreds of fruit growers who had built storages on their farms

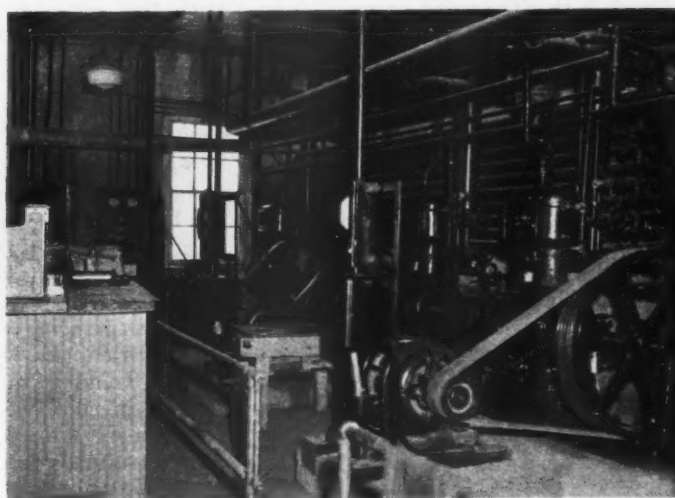


Above, left—"I would use good insulation and plenty of it."

Above—"I would build no larger than I need, so that I could use nearly full capacity at all times."



"I would have a small opening, about 24" by 24", for loading the fruit into the storage, and removing it, thus preventing loss of cold from opening large doors."



"I would install two refrigeration units so that both would be available for peak loads, and one unit could control the storage at other times."



# NATIONWIDE FRUITS

## PEARS

● **Fire blight**, which under certain conditions and with susceptible varieties is one of the most serious diseases of the pear and apple industry, can be kept at a minimum even during years when the disease is epidemic if adequate care is given to the detection and prompt removal of blighted twigs.

A cool spring retards activities of insects which spread the disease, as it did in Ohio orchards last year. As a result very little infectious material is now present in these orchards, making it much easier to detect the first blighted twigs.

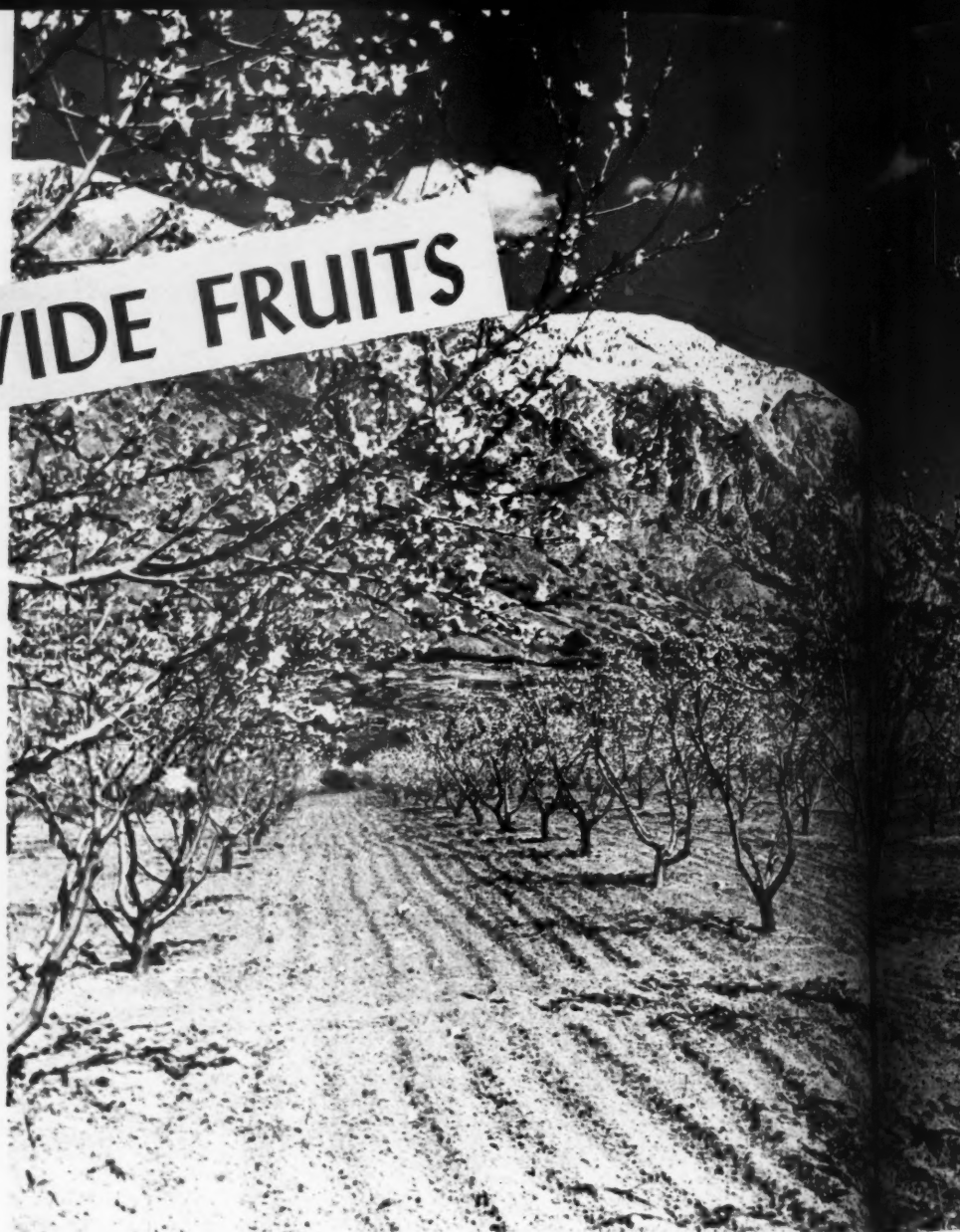
First symptoms usually appear ten days after blossoming on such varieties of apples as Jonathan, Wealthy, and Yellow Transparent. Blighted twigs or blossoms look as though they have been scorched by fire, thus giving the name to the disease. The damage caused by it may be enormous, with young orchards wiped out in one season and crops in bearing orchards reduced 25 to 50 per cent or more. Loss of fruit spurs may materially reduce fruit production for several years.

Infections spread most rapidly during the early part of the season while the new growth is still succulent, attacking the leaves, twigs, fruits, branches, trunks and roots of the trees. For this reason all trees susceptible to fire blight should be inspected at least once or twice a week and all blighted twigs should be promptly pruned out and removed from the orchard.

Regulating growth of trees to prevent rank vegetative growth may also help in controlling the infection.

## CHERRIES

● **Two methods** for the prevention of cherry cracking after rains, due to



gorging with too much water have been discovered by Professor W. L. Powers and W. B. Bollen of the Oregon Agricultural Experiment Station.

Protective sprays which include anhydrous copper sulfate will prevent the cracking, as will the application of about one pound of borax per tree with the fertilizer. Similar results have been obtained with prunes.

## BERRIES

● **Enemy Number 1** of strawberry growers during the past several years has been red stele root rot. Thousands of acres of profitable fields in the mid-west and northeastern commercial berry areas have been wiped out by the fungous parasite which attacks the roots of the plant.

The fungus causing the disease thrives in cool, wet weather and in wet, poorly-drained soil. It may be present on the roots of newly set plants without causing any apparent injury during the entire first season's growth. The disease usually becomes evident just before harvest. The

trouble appears to spread rapidly after it is first noted and often wipes out the entire patch.

One of the most important means of avoiding the disease is to select well drained and well aerated soil, rotating the crop so that four or five years intervenes between berry crops as the fungus can live over in the soil for a long period of time.

The Temple strawberry has proved to be a commercially profitable variety that will make a good crop on red stele infested soil and is now being used to replace many of the plants destroyed by the disease. The Temple not only yields well but also makes a fast growth and has a good quality berry for fresh use as well as freezing.

● **A grower's reputation** is his greatest asset in marketing his fruit. Strawberry growers who are planning to market June crops may find a list of picking suggestions helpful in keeping the goodwill of their buyers.

Berries should be three-fourths red color for picking for market, as soft over-ripe berries will spoil the pack. Frost injured berries and others that





Photo by Paul Tohms

are misshapen should also be kept out of the pack, as well as all berries with even a small spot of rot.

Pickers should be careful not to bruise the berries by keeping too many in their hand while picking and avoid removing the berry stems and caps. Sandy berries should be packed separately and a good mulch will help keep them clean and eliminate rot.

Growers should closely supervise their pickers and check quarts from each at frequent times during the day.

## SPRAYING

● **With June at hand** and spraying foremost on the fruit grower's calendar, efficiency in operation now will pay off in dollars and cents later.

In a survey of 60 fruit farms by the Agricultural Experiment Station at Cornell university it was shown that advance planning on convenient arrangement of materials, use of equipment to full capacity and good organization all contributed to fast and efficient spraying. Actual studies have proven that some growers can apply

twice the amount of spray that a neighbor can in the same period of time with similar equipment.

Actually, such efficiency in operation gives a grower twice his money's worth—or "two for the price of one", for by doubling the number of tanks of spray applied per hour it enables him to cut the labor cost in half. As much as two weeks' labor can be eliminated in a season of spraying under such a speeded-up program and short cuts provide more time for other orchard operations. Of the fruit farms studied in the survey, it was found that the faster group of workers averaged only 30 minutes of work for each tank of spray while the slower group required nearly fifty minutes.

As part of the efficiency program, overhead water tanks with large diameter outlets, platforms to make the work easier and barrels or screens for adding materials facilitated both filling and mixing. The use of traveling filler trucks, conveniently placed filling stations or fast tractors and improved roads eliminated much time wasted in traveling back and forth to refill.

Kenneth Robinson, Cornell economist who worked on this project, stated the labor required to grow a bushel of apples has either remained the same or shown an upward trend and in spite of more and improved equipment the fruit grower has had to increase the amount of hand labor. If fruit prices decline in the next few years and labor costs remain high, labor efficiency programs may make the difference between profit and loss in fruit production.

● **Growers need** no longer put off spraying for apple scab during rainy days, for development of highly efficient "spreaders" and "stickers" now permit spraying in the rain if necessary.

The scab spores fly during periods of wet weather and may infect leaves which have developed since the preceding spray application was made. The spores require at least eight hours to germinate and infect the leaves, however, so there is time even after a rain starts to cover newly developed foliage and prevent scab infection.

## APPLES

● **After the bloom**, which promises a heavy fruit crop, comes the problem of thinning. Next to no yield at all, the greatest handicap to a grower may be an excessive yield, particularly if thinning is not possible, for too heavy a crop one year may result in little or no crop the following season.

Thinning is a costly operation and the earlier it is done, the greater the benefit to the crop. However, as blossom thinning by hand is too expensive and blossom thinning with sprays is as yet too uncertain, growers usually find it best to thin as soon as possible after the June drop.

Not only does thinning improve the marketability of the fruit by obtaining better size, color and flavor, but it also helps maintain the vigor of the tree and prevent breaking of limbs. Also, removal of diseased and insect-injured specimens at thinning time will give more time for the care of top quality fruit, and reduce labor costs at harvest time, thus compensating in part for the cost of thinning.

The question of how many apples a tree should be allowed to grow can be answered best by each individual grower, depending upon the condition. (Continued on page 24)

## THINNING INSTRUCTIONS

Because thinning is a highly important and expensive operation for the fruit grower, a successful apple grower in the east has printed the following set of rules from his own experience for this work. As reported by the Mountaineer Grower, this grower posts his rules during the thinning season in places where his workers gather, making certain each worker is familiar with them.

**THE PURPOSE OF THINNING** is to relieve the trees of all excess load and space the fruit so that it will color and size properly. To do this:

First thin off all imperfect fruit. Then take off all doubles necessary to space properly; thin fruit from underneath, including all undersize fruit, leaving tree so it carries load with best fruit out where it can get sun and air.

In thinning use both hands. If possible break stem off at the apple. Where apples are closely bunched take little one, leaving big fruit with best color out to the sun.

Do not break off the fruit spurs. They are needed for next year. Leave fruit if possible, where the leaves have not been injured by aphids.

Space as follows: All summer varieties at least 8 inches apart; Grimes Golden 7 to 8 inches, Stayman and Delicious, York Imperial and other winter varieties to 5 or 6 inches apart.

Vary these instructions according to variety.





## • Frost Causes Many Sleepless Nights • Plan Now For Your Summer Meeting

**ALABAMA, May 19**—Mr. R. L. Baker, of Baileyton, Cullman County, will be host to visiting fruit growers at his orchard on June 27, with a field day showing the new peach and apple varieties he has bred there. By crossing leading commercial apples with such Alabama varieties as Hackworth, Mr. Baker has obtained a series of promising new varieties, starting with "June Delicious," which seem to have a bright future in southern orchards.—*J. C. McDaniel, State Hort., Nashville, Tenn.*

**CONNECTICUT, May 23**—Frosty nights the first week in May caused damage in low area blocks. This in addition to rainy, cool pollinating weather the past few days may materially reduce the Connecticut apple crop. It is expected that the recent rainy periods will increase scale infection due to the fact that scab spots are showing up on blossom stems and older leaves. Clinics are being well attended in all counties.—*Arthur C. Bobb, Extension Fruit Specialist, Storrs.*

**ILLINOIS, May 22**—Apple tree blooms in Western Illinois were very good with the exception of some blocks of Jonathans and Willows and a few other varieties that bore too heavy last year.

On the whole our bloom was as good as last year, but we expect only about 70% as many apples on account of quality and exceptional size in 1946. We had a good blooming season with no frosts and the apples seem to be setting very good, with only a small amount of scab showing up in Western Illinois.—*C. C. Mast, Sec'y Ill. State Hort. Soc., Quincy.*

**INDIANA, May 23**—The Summer Meeting of the Indiana Horticultural Society

will be held at the orchards of J. D. and Homer Coffing, R.R. 1, Covington, Indiana, on July 23rd, at 9:00 A.M., Central Standard Time.

Local horticultural society meetings scheduled are: the Pocket Society on July 2nd and the Eastern Indiana Society about July 16th, while dates have not been definitely set for the Dearborn, Elkhart and Lagrange county societies.

The Strawberry Growers' Association summer meeting will be held at St. Anthony in August.

Late freezes hit Brown and Jennings Counties severely, but the fruit elsewhere in the state was not unduly damaged by frost.—*Ben B. Sproat, Sec'y, Ind. Hort. Soc., Lafayette.*

**IOWA, May 20**—Contrary to our report in the May issue, it appears as though Iowa will have a very fine fruit crop this year. Apples, pears, plums, and cherries are mostly blooming full. Peach buds were killed during the past winter. Even orchards that produced a heavy crop last year have come back with sufficient bloom for a satisfactory crop this season.

Many young trees, planted since the Armistice Day storm in 1940, are blooming this year for the first time. Several orchards, where such varieties as Jonathan, Delicious, Grimes, etc., are topworked on Virginia Crab and Hibernia, are blooming this year, three years after budding.—*H. E. Nichols, Asst. Ext. Hort., Ames.*

**KENTUCKY, May 21**—The frosts and freeze of last week caused practically no damage to the apple, peach and berry crop in Kentucky.

Our first car of strawberries rolled to Eastern markets on May 16th. Fine quality

crop in prospect.—*W. W. Magill, Sec'y, Ky. State Hort. Soc., Lexington.*

**MAINE, May 23**—In cooperation with the Extension Service the Pomological Society is sponsoring the usual round of twilight meetings. Dates are June 17, 18 and 19. Place for these meetings will be announced thru the local papers and radio. Art Williams of the Conn. Extension Service will be the guest speaker, and will cover the spraying problems of the season.

The Annual Summer Field meeting of the Society will be held in August.

Deer continue to be a threat to Maine orchards. A remedy satisfactory to the orchardist and the sportsman is still wanting.—*Rockwood N. Berry, Sec'y, Me. State Pomological Soc., Livermore Falls.*

**MARYLAND, May 23**—Any belief that Maryland growers may have had regarding a heavy peach crop for the State were dispelled almost totally on the nights of May 8 and 9 when temperatures as low as 20 degrees swept through the entire State. Damp straw, scrap rubber, wood, sawdust and army surplus smoke bombs were burned in desperate attempts to fight off the cold. In late May the size of crop was somewhat doubtful, but in brief, it seemed that both the apple and peach crops were in the 20-25% range.

The Bill setting up a State Apple Commission for taxing Maryland apples of U.S. No. 1 Canner grade and up, the funds to be used for publicizing Maryland apples, has been signed by Governor Lane. Candidates for appointment to the 7-man Commission are to be submitted by the Executive Committee of the State Horticultural Society.

Some plans have been made for the annual summer field meeting for Maryland fruit growers. However, until the size of the crop is better determined, it is not known whether the meeting will be held this season.—*A. H. Vierheller, Sec'y, Md. State Hort. Soc. College Park.*

**MASSACHUSETTS, May 23**—Apple Bloom is a week or 10 days later than normal and generally less than last year. Several cold mornings in later April and May killed blossoms and greatly reduced the crop in some orchards. Much wet weather is favorable to scab development. Peaches and pears promise a full crop. Strawberry field day will be resumed at the University of Massachusetts on June 18.—*J. K. Shaw, Mass. State College, Amherst.*

**MISSOURI, April 28**—In general, Missouri orchard prospects are at present very good. We are 10 days to 2 weeks late in bloom. Peaches blooming now in north Missouri and some 2 weeks past bloom in extreme southeast. Apple bloom starting in southeast and will probably be in full bloom in central and north Missouri the first few days of May. Weather has been cold, backward and wet. Growers have had extreme difficulty with pre-bloom sprays and some orchards are expected to develop considerable scab. Apple bloom excellent. Practically every orchard showing sufficient bloom to produce a good crop with very few trees or varieties extremely light.—*W. R. Martin, Jr., Sec'y, Mo. State Hort. Soc., Columbia.*

(Continued on page 34)

## WEST TENNESSEE STRAWBERRY CHAMP



Photo by Jesse Safley

Jim Bob Scruggs, 18-year-old high school senior of Gibson, Tennessee, shows county agent T. R. Wingo his contour-planted Blakemore field which won the 1947 grand championship in the West Tennessee Strawberry Field Contest. Jim's father, J. Harris Scruggs, was champion grower in 1939. Together they run Chestnut Hill Farm.—*J. C. McDaniel*

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## Measure Your Packing Efficiency With the Results of this Survey

by MELVIN HURD

**E**FFICIENCY and good management go hand in hand in the packing house. Results of a study made of 62 packing houses in New York state show that the average number of bushels packed per worker per hour varied from 4.9 to 9.5. The number of workers consists of all help in the packing house, including the nailer and handy men.

For purposes of comparison, packing houses surveyed are divided into five groups: custom packers, efficient grower packers employing 10 or more packers, efficient grower packers employing less than 10, less efficient growers using graders, and growers packing by hand or without sizing equipment. The survey also includes number of sizes packed since this affects packing speed.

Eleven custom packers averaged 8.8 bushels per hour per packer and 2.9 sizes whereas seven efficient grower packers averaged 9.5 bushels per hour per packer and 2.0 sizes.

Efficient grower packers employing less than 10 packers did not do as well as the custom packers. They packed 7.3 bushels per hour per packer and averaged 2.7 sizes.

Less efficient grower packers using graders packed only 4.2 bushels per hour per packer but the percentage of McIntosh, an easily bruised variety, was high and an average of four sizes was packed.

The growers packing by hand or on belts and homemade equipment without sizing units packed an average of 4.9 bushels per hour per packer and an average of 4.4 sizes. Over 60% of the apples packed by these growers were McIntosh. One of these operators installed grading equipment in 1946 and increased the efficiency of his packers from 5.3 bushels per hour per packer to 6.3 bushels per hour per packer.

How much space should a grower have to pack his fruit? The custom packers had an average of 23 square feet per bushel per hour. Thus an average custom packer would have a room 40' x 95' to pack 164 bushels per hour. The average efficient operator needs 12 square feet per bushel per hour of space for the grader, the packers and the flow of apples in and out of the packing house. The space needed for the grader, and packers and the mere flow of the tree run fruit in and the packed fruit out of the packing house varied from 9 to 15 square feet per bushel per hour.

The space needed or desired for the storage of tree run fruit, empty packages and packed fruit varied from 3 or 4 square feet per bushel per hour to over 25 square feet per bushel per hour. The average total floor space desired by the better packers was approximately 24 square feet per bushel per hour. The smaller operators would need relatively more space. Thus a grower wishing to pack 50 bushels per hour would need a room approximately 24' x 70'. A packer wishing to pack 200 bushels per hour would need a room approximately 40' x 100'.

The arrangement of the packing house is a very important factor. The feed belt or the feed table should be near the unloading door or unloading platform. The unloading platform of the packing house floor should be level or within 6" of the height of the body on the machine drawing in the apples. If your packing house is too small you might add a platform and have the feed belt on the platform itself. This would be of value when extra machines are used for drawing and a full truck or trailer can be left at the platform. Field crates can be load-

(Continued on page 39)

	No. of operators	Sq. ft. per bu. per hr.	Bu. per packer per hr.	Aver. no. packers	Bu. per hr.	Aver. no. sizes packed	No. packaging before storage	After storage	Approximate equal both times
All custom packers.....	11	23	8.8	19	164	2.9	8	1	2
Efficient grower employing at least 10 packers	7	19	9.5	12	114	2.0	4	3	..
Efficient grower packer employing less than 10	7	42	7.3	7	49	2.7	5	1	1
Less efficient growers using graders.....	7	55	4.2	9	40	4.0	4	3	..
All growers packing by hand or without sizing equipment.....	7	35	4.9	11	57	4.4	2	5	..
Hudson Valley.....	35	40	6.3	8.7	....	3.74	14	21	..
Western New York.....	27	30	8.1	13.5	....	2.20	18	5	4



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OWER



## The Universal 'Jeep' Costs Less per Year because it serves as tractor, truck and power unit



THE 4-WHEEL-DRIVE Universal "Jeep" has the traction and power to take you through the orchard in any weather for inspection of trees and transportation of tools and equipment.

The Universal "Jeep" does more kinds of jobs for the fruit grower than any other vehicle you could buy.

With steady-pulling 4-wheel drive, the "Jeep" serves as a tractor for operating discs, plows, weed rakes and other implements. Its low silhouette (53 1/2" high) permits working close to trees.

The Universal "Jeep," with power take-off, operates sprayer and dusters, and furnishes up to 30 hp for belt work.

You can use the "Jeep" in the orchard or on the highway as a pick-up truck for loads up to 1200 lbs., shifting to 4-wheel drive to go through mud or 2-wheel drive for road speeds.

The versatile "Jeep" will tow a trailer in the orchard when you trim trees or pull a wagon-load of fruit to town at highway speeds.

Because the "Jeep" works more days per year at more kinds of jobs, it lowers your expenses for power equipment. See the Universal "Jeep" now at Willys-Overland dealers.

# THE UNIVERSAL 'Jeep'

WILLYS-OVERLAND MOTORS...MAKERS OF AMERICA'S MOST USEFUL VEHICLES  
JUNE, 1947

# Niagara "No-Frost" Method



## Rapid Uniform Cooling

### ... BY THE NIAGARA "NO-FROST" METHOD

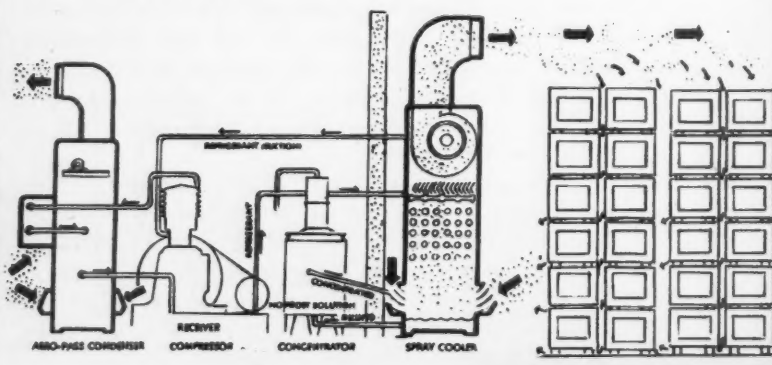
- Chills fruit faster, reaches required core temperature quicker.

Assures delivering fruit of finest quality, appearance, texture, flavor, and maximum weight.

Gives always full refrigeration capacity when most needed, while crop is going into storage.

Ends frost and ice, prevents loss of capacity due to progressive ice accumulation on coils. Holds fruit in storage with minimum refrigeration.

Saves power and refrigeration; makes your storage cost you less; increases your profits.



#### NIAGARA BLOWER COMPANY 405 Lexington Ave., New York 17, N. Y.

- ☐ Please send Bulletins 83-FG and 102-FG on the Niagara "No-Frost" Method.
- ☐ Please send Bulletins 91-FG and 103-FG on the Niagara Aeropass Condenser.

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

USE THIS COUPON  
TO OBTAIN  
COMPLETE DETAILS

## NATIONWIDE FRUITS

(Continued from page 19)

tion of his trees, in relation to vigor and leaf area, as well as his planned spray program and available water supply.

Maintaining a proper ratio between leaf area and fruits will also determine how much thinning is necessary. The important thing to remember in thinning fruit is to remove all defective fruits, leaving only one fruit to a cluster, with a proper spacing distance between the fruit left to insure sufficient leaf area for each fruit, without causing too great a reduction in the tree crop. Apples spaced 6 to 8 inches apart usually produce best results, depending on variety and local conditions.

Apples are best thinned by hand or with a pair of light shears. In removing the fruit care should be taken to avoid weakening apple left on tree.

### Thinning Peaches

Since peach trees in good condition generally set more fruits than the trees are capable of supporting to maturity, thinning has become well-established in most regions. Tests have shown that with peaches spacing of the fruits is not as important as leaving the desired total number of fruits on the tree. But, as with apples, the fruit from thinned trees is improved in size, color and flavor.

Peaches are best thinned as soon as the fruits likely to fall in the last drop can be easily distinguished and investigation has shown that crops thinned even up to within four or five weeks of harvest will show a marked effect upon size of fruit.

● "Pole thinning" has become especially popular as a method of thinning peaches. Professor H. D. Hootman, Michigan State College orchard specialist has perfected a device for thinning peaches quickly and effectively, using a pole about as long as the expanse of a man's outstretched arm and a 15 inch piece of hose telescoped about four inches onto the end of the pole, leaving some of the hose dangling to create a whip effect. Holding the whip in both hands and striking the branch from the side about 18 inches from the top, an experienced worker should be able to do a quick and effective job without any damage to the tree.



AMERICAN FRUIT GROWER

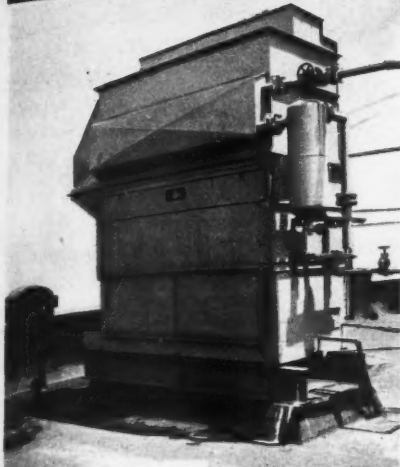


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## AEROPASS



### Assures Constant Full Capacity and Lower Cost Refrigeration

● With its patented "Balanced Wet Bulb Control," the Niagara Aeropass Condenser keeps your compressor at the lowest practicable head pressure at all times and saves you money constantly thru automatic operation.

It pays for itself every two or three years in saving condenser water, and even more, by keeping scale deposits from condenser tubes, by keeping oil from refrigeration lines...and by reducing head pressures it cuts your power bills and increases your refrigeration capacity.

Users say it saves half the trouble and wear and tear in operating refrigeration machinery. You can store a crop without interruption during the peak season...and your savings are constant and lasting.

### NIAGARA BLOWER COMPANY

405 Lexington Ave., New York 17, N.Y.  
District Engineers in Principal Cities

## MY FIRST STORAGE WAS GOOD

(Continued from page 12)

are also rodent proof. Other improvements that Lutz incorporated in the new building are thicker, better insulated walls, ceiling and floor.

Since the original storage was built near the road in the vicinity of the house and other buildings, where it was accessible to trucks and patrons, Lutz decided to build the addition beside it. By following this plan, he can use the same packing room for grading and packing the apples into both storages.

Having decided on the location, the next question was how large to build. Lutz thought ahead to future crops of 35,000 to 40,000 bushels, and decided to make his storage large enough to hold half, or more, of any future crop. With this in mind, he built a new structure of 15,000 bushel capacity, which gave him a total storage volume of 21,000 bushels. In calculating the size of the storage, he allowed 2½ cubic feet per bushel, which gave sufficient space for alleyways and ceiling clearance.

Next were the details of construction: what kind of material to use, what insulation, how much, what kind of floor, and what type and size of refrigeration equipment? These were some of the questions that Lutz had to answer.

First he talked over the entire

storage problem with Donald Comin, storage specialist at the Ohio Agricultural Experiment Station, and consulted the refrigeration company's engineer about the type and size of refrigeration equipment. This way many of the preliminary kinks were ironed out. Refrigeration figures were checked with Comin, since he has a wealth of experience and knowledge of the subject from which to draw.

How thick should the walls be? Comin explained that the objective in wall construction is to make the wall as inexpensive as possible and yet so well insulated that a minimum amount of heat will pass through it. The lower the insulation qualities of the wall the greater and more expensive the refrigeration requirements. Comin calculated the economical thickness of insulation to be 6 inches. Besides this, the outside tiles would be 8 inches wide, and the inner ones, 4 inches, thus making a total wall thickness of 18 inches.

An order for tile had to be placed. How many tiles would it take? The building was to be 40 by 80 feet, outside dimensions, and the storage room proper, 14 feet high. Two walls were to be erected leaving 6 inches between for insulation. The tiles to be used on the outside were 5 by 8 by 12 inches. The tiles of the

(Continued on page 40)

## SUCCESSFUL ORCHARDS

By J. GILBERT HILL



COMFORTABLE cottages, equipped with modern conveniences, proved a good investment for E. M. Goodwin, Rio Grande citrus grower. His Mexican workers settled down, and began to save money to buy such luxuries as washing machines and radios. "I figure that my folks do just about half as much work again for the same pay," Goodwin says.





## "But Mom, can you make 'em fit?"

Whether it's a pair of pants or a new truck, you get better satisfaction . . . when they FIT!

Dodge "Job-Rated" trucks are engineered and built from the ground up—to FIT YOUR FARM HAULING JOBS!

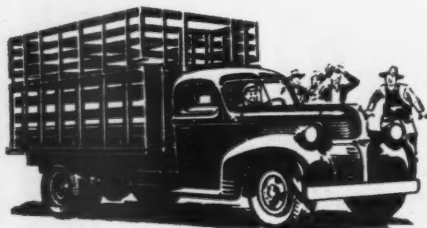
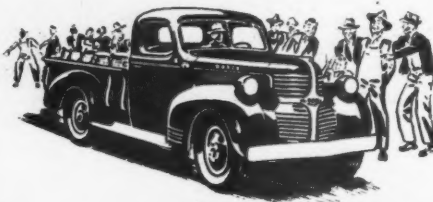
For example, Dodge builds 7 different "Job-Rated" engines—not just 2 or 3—to give you exactly the right power, with maximum economy. Likewise, Dodge builds an extremely wide variety of clutches, frames, transmissions, springs, rear axles and every other truck unit.

As a result, you get a truck that's neither too large nor too small . . . but one that will haul your loads at "top" efficiency, and at lowest cost.

That's why the Dodge truck you buy will be so much more *dependable* . . . and last so much *longer*. To get such a truck, see your Dodge dealer . . . because *only* Dodge builds "Job-Rated" trucks.

### 5 PICK-UPS FOR THE FARM

6½' pick-up body on ½-ton . . . 7½' pick-up body on ¾-ton . . . 7½' pick-up body on 1-ton . . . 9' pick-up body on 1-ton and 1½-ton chassis. All bodies are 48½" wide inside, sides 17" high to top of flare.

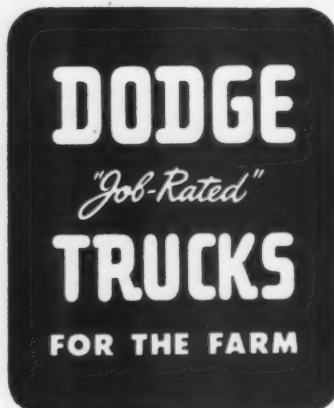


### CHASSIS AND CABS FOR MANY BODY TYPES

To fit your farm job—the 175 "Job-Rated" chassis models include a new 1½-ton chassis with 178" wheelbase, specially engineered to take 14' body lengths with proper load distribution. Standard 7½', 9', 12' and 14' stake and platform bodies are available.

### TRUCK SERVICE, TRUCK PARTS . . . IMPORTANT, TOO!

As a responsible businessman, your Dodge dealer is interested in your continued satisfaction: *First*, by giving dependable Dodge truck service when you need it; *Second*, by providing you with factory-engineered truck parts . . . identical in quality and workmanship with original Dodge "Job-Rated" truck parts.



## How Big Shall I Build?

(Continued from page 16)

in relation to the volume of storage space. This area is expensive, and the cost per square foot is greater in a small building than in a large one.

Experience has also shown that a building of cubic shape (square, or rectangular, with no jutting wings) is more economical. This shape gives maximum storage capacity in relation to the floor, ceiling, and wall space.

To save on ceiling cost, it has been found that the building should not be too wide. Extra width means extra strength needed in ceiling and roof support.

### Gaining Extra Volume

A good way to gain extra volume of storage capacity is to build the ceiling a little higher instead of adding floor space, since there is considerably more wall and ceiling space involved when increasing the floor area than when building the ceiling a few feet higher. If a remodeling job is to be done, it is often possible to dig the floor deeper, thus increasing the capacity at very small relative cost.

To estimate the capacity desired for the storage in cubic feet, it is safe to allow slightly more than 2½ cubic feet of space per bushel to be stored. When this figure has been found, the desired height of ceiling should be determined. Usually the maximum practical height for storing crates would allow a 14-foot ceiling. However, about 12 feet is an accepted average height. The next step is to find the floor area, and from this the dimensions can be determined. For instance, if you wished to build a storage for 10,000 bushels of fruit, you would multiply 10,000 by 2.5 (2½ cubic ft. per bu.). This shows that you will want 25,000 cubic ft. of storage space. If you intend to have a twelve-foot ceiling, 25,000 divided by 12 will equal 2,083 1/3 square feet of floor area. Since you now know the area that your floor should be, you can decide upon the desired width (say 40 ft.), and then divide 2,083 1/3 by that figure (40), and you will get the length (52 ft.).

### Size of Building

When deciding on the size of the building, it is wise also to consider the areas that will be needed for grading, packing, loading and unloading, dry storage, sales, machine storage, and workroom, and to include them in the one structure. This way, one wall can often be used for two rooms.

Another important thing to con-  
(Continued on page 43)

AMERICAN FRUIT GROWER

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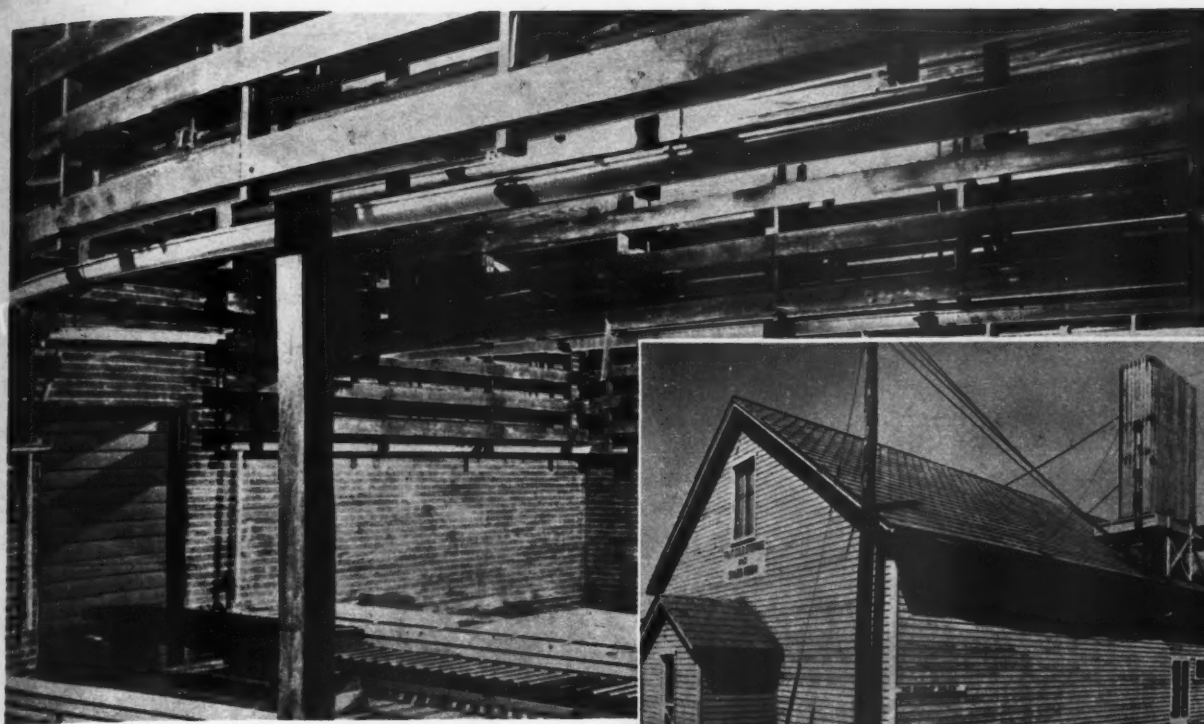
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Fruit Storage Room treated with Cuprinol in 1943  
Pennsylvania State College



## **CUPRINOL** FOR WOOD

## **Cuts Fruit Storage Costs! by Stopping Wood Rot and Mildew**

In the Summer of 1943 the rooms of the Apple Storage Building at Pennsylvania State College were treated with Cuprinol. Filled with fruit each year, there has been no evidence of mildew on the walls of these rooms since the Cuprinol treatment. Consequently no mildew removal has been necessary, no whitewashing or painting called for, no further Cuprinol treatment—in 1944, 1945\*, 1946 or 1947.

Before storing your 1947 crop look into the value of Cuprinol treatment of storage rooms. Estimate about 400 sq. ft. of wood surface to the gallon of Cuprinol, brush applied. List prices: 1 gallon, \$2.90; 5 gal. pail, \$2.80 per gal.; 50 gal. drum, \$2.70 per gal.

Also recommended is Cuprinol treatment for flats and greenhouse benches; for vineyard stakes and trellises; for cold frames, and wherever wood is subject to fungus, boring insects and dry rot.

You can reduce your cleaning costs of storage rooms by treating all the wood work with Cuprinol—walls, ceilings and floors—for Cuprinol stops mildew and fungus growth. It is a liquid easily applied by brush or spray, and Cuprinol treated wood has no harmful effect on stored fruit or produce. It may be used by itself or as a priming coat where painting is desired.

There is also "Cuprinol For Fabrics" to prevent mildew in tarpaulins, sacks or other farm fabrics, and "Cuprinol For Rope" which will lengthen the life and strength of any cordage you may use.

\*Storage was not operated for crop of 1945 because of crop failure

**CUPRINOL, Inc., Mfrs., 31 Spring Lane, Boston 9, Massachusetts**



**YOU CAN DEPEND UPON IT**



**SHERWIN-WILLIAMS**

**STOP-DROP**

**WON'T LET YOUR APPLE CROP DOWN!**



Why let windfalls rob you  
of your apple-crop profits?  
Windfalls mean waste . . .

waste that no fruit grower need put  
up with any longer. Let Sherwin-  
Williams STOP DROP turn your  
crop-waste into handsome crop-

profits. • Sherwin-Williams STOP-  
DROP prevents premature dropping  
of such apple varieties as Transpar-  
ent, Duchess, Wealthy, McIntosh,  
Jonathan, Golden Delicious, Red  
Delicious, Stayman and Winesap  
. . . also Bartlett Pears.

*Harvest all your crop—and all your profits—with  
Sherwin-Williams STOP-DROP—the largest-selling,  
most successfully used synthetic plant hormone spray.*

**SHERWIN-WILLIAMS SPRAY MATERIALS**

INSECTICIDE DIVISION

101 Prospect Ave., N. W.

Cleveland, Ohio





## IN THE NEWS

### Dr. F. S. Howlett

Succeeding the late Dr. Joseph Gourley, Dr. Freeman S. Howlett has been named chief of the combined Departments of Horticulture at Ohio State University and the Ohio Agricultural Experiment Station. A graduate of Cornell University, where he received his Ph.D. in 1925, he has been with the Experiment Station since 1924 and with the University since 1929. A member of numerous honorary societies, Dr. Howlett is currently Secretary-Treasurer of the American Society for Horticultural Science.



### Harold E. Copple

Directors of the Washington State Apple Advertising Commission have appointed Harold E. Copple of Wenatchee as secretary-manager, succeeding Cliff E. Chase who has retired. Mr. Copple has been manager of the Wenoka Federation for the last ten years and president of the Washington State Horticultural Association since last December.



The new manager has stated that the basic policies of the Apple Commission will remain the same.

Robert W. Johnston, manager of the Yakima office, has succeeded K. J. Boender as new assistant manager.

### Prof. B. S. Pickett

On June 30, after 24 years service, Professor B. S. Pickett, will step down as head of the Department of Horticulture and the Horticultural section of the Experiment Station at Iowa State College.

He will be succeeded by Professor E. S. Haber, also of the Horticultural and Experiment Station staff.

Under Professor Pickett's direction the Department of Horticulture at Iowa has made a distinguished record. The horticultural farm at Ames was planned and planted under his supervision, and the departmental staff has introduced numerous varieties of apples, peaches, pears and plums, and done extensive work with grafting.

Professor Pickett helped organize the National Apple Institute in 1934; served as president of the Iowa Horticultural Society; and for the past three years has been special consultant in the U. S. Department of Agriculture.

Although retiring as department executive, he will continue as professor of horticulture.



**EFFECTIVE  
ECONOMICAL**

*Pest Control*

*with a*

## ROOT POWER DUSTER

### ... CROP ENGINEERED TO YOUR NEEDS

ROOT Power Dusters are built to meet hard usage. Fan shaft supports and self-aligning bearings are designed for dawn-to-dusk operation. Air blast is geared to highest velocity consistent with size of machine. A new, positive feed screw, working with mechanical agitators, conditions the dust to a fine particle, dense, penetrating cloud of protective materials. The extreme turbulence developed in the dust stream produces a static electrical accumulation which attracts and helps stick the dust particles to the foliage.

YOURS FOR THE ASKING... A copy of NACO's newest catalog-bulletin offering ROOT Dusters. It is designed to make appropriate choice easy if you seek full efficiency and safe, effective economy in pest control equipment. Three basic sizes are described... crop-engineered to cover all pest control conditions. Ask your implement dealer for a copy... or write direct... without obligation.

#### "ANOTHER NACO PRODUCT"

The complete line of ROOT Dusters include:

Plunger, NAP-SAK, Crank, Traction, Saddle, Engine Power and Power Take-off Models. Also, there is a ROOT All-Purpose Spreader for fertilizers, insecticides, grass seed, for golf courses, parks, estates.



## NACO MANUFACTURING CO.

(FORMERLY ROOT MANUFACTURING CO.)

7631 Roseberry Ave. (P.O. Box 310) Huntington Park, Calif.

EASTERN BRANCH: 285 West Trigg Avenue • Memphis 2, Tennessee  
NORTHWESTERN BRANCH: Portland, Oregon

## AMERICA'S FAVORITE SPARK PLUG



dependable  
**CHAMPIONS**

**ARE ALWAYS "IN THERE PITCHING"**

Dependable engines are the measure of the efficiency of all power-farming equipment. Here is where dependable Champion Spark Plugs play their all-important part, for it is their function to insure the dependable ignition that farm engines need for maximum power and economy. The American farmer is universally recognized as a discriminating buyer and survey after survey proves that not only is Champion "America's Favorite Spark Plug," but also the overwhelming favorite on the farm, for every engine. Champion Spark Plug Company, Toledo 1, Ohio.

*Listen to the CHAMPION ROLL CALL, Harry Wisner's fast sportscast every Friday night, 9:55 EDT over the ABC network*

**FOLLOW THE EXPERTS . . . DEMAND DEPENDABLE  
CHAMPIONS FOR EVERY FARM ENGINE**

## If I Did It Over Again

(Continued from page 17)

ing worthwhile, but would be careful not to install more than is necessary. The people who install the machinery should be able to advise how much equipment will be needed to handle the maximum daily cooling load at the time that the fruit is being placed in the storage.

One reader suggests that it might be wise for the grower to install two compressors: one large, and one small. Then both could be used during loading time, and the smaller, alone, would be sufficient later to keep up the proper holding temperature.

Several growers have learned by experience that humidity must be watched carefully. Relative humidity should be in excess of 90 per cent to insure fruit against shriveling. This should be considered when building.

"I'm going to install more compressors," say some, while others would put in larger units. Still others would install conveyor systems.

In speaking of conveyor systems, it was suggested that a conveyor passing from the storage room through a small door, 24 x 24 inches, to the outside loading dock might give the grower considerable saving on refrigeration.

### Use Good Insulation

"I would use good insulation and enough of it to do the job," said one grower who hit upon another keynote in storage construction, for insulation looms large in future plans of many storage owners. Here is a tempting spot where many growers think they can cut down expense in building storages. But if they do, they will wish they hadn't.

Floor insulation is important since the temperature of the earth remains at about 50° to 60° F. throughout the year, and when the storage is kept at temperatures from 32° to 35°, an uninsulated floor radiates its heat into the storage.

The type of storage insulation used does not seem to be so much in question as the quantity. Various eork and redwood bark materials seem satisfactory, but many growers did not use enough. One should keep in mind that the floors, walls, and ceilings must be adequately insulated if heat is to be kept out and cold kept in. This is not the place to stint.

As far as the building in general is concerned, many growers wish

**AMERICAN FRUIT GROWER**



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they had built above the ground in-  
stead of underground. Now they  
know that although the earth may be  
cooler than the air in fall, it is  
warmer than the desired temperature  
of the cold storage, and will actually  
increase costs of refrigeration unless  
still more insulation is used.

A need for higher ceilings is often  
expressed. It is a good trick to gain  
extra storage space more cheaply by  
raising the ceiling (or lowering the  
floor) instead of by enlarging the  
floor space. Ten- to 12-foot ceilings  
are considered good.

#### Unbroken Ceiling

In connection with ceilings, many  
growers would like to knock down  
the pillars and cross-beams that sup-  
port them. In cold storage, it is im-  
portant that the ceiling present a  
large, smooth, unbroken surface  
without pillar-heads or joists to ob-  
struct the flow of air that moves  
along the top of the room. The ceil-  
ing should be supported by wall  
columns and steel trusses. If beams  
project across the ceiling, they  
should run parallel to the flow of air.

A building of more than one story  
might be regretted, according to the  
experiences of many growers, since  
one floor proves to be more conven-  
ient and economical. The storage  
should be of rodent-proof construc-  
tion!

Expressed by many storage own-  
ers was the desire for small rooms  
for special purposes. Growers have  
built large, square, single-room stor-  
ages and find that two or three  
smaller rooms might have been bet-  
ter.

#### A Small Room

The need most often mentioned in  
this respect was for a small room  
for storage of fruit that would be  
handled quickly, with a rapid turn-  
over. If such fruit were stored in a  
smaller room, the large storage  
would not have to be opened so often,  
less warm air would enter it, and the  
cost of operation would be less.  
When the little room would be  
emptied, it could be refilled at one  
time, so that the big room would  
have to be re-cooled only once.

Some growers felt that a separate  
housing for the refrigerating mech-  
anism would be desirable, since this  
would leave all of the insulated stor-  
age space for fruit. Others would  
have a separate packing room in  
which fruit could also be pre-cooled  
before placing in the cold storage.  
Attic space for storage of crates and  
containers had been forgotten by a

(Continued on page 43)

RED

SPIDER

MITES

LEAFHOPPERS

APHIS

THRIPS

QUICK ACTION AGAINST THESE PESTS

# VAPOTONE

INSECT SPRAY

THE ORGANIC INSECTICIDE  
THAT MOWS 'EM DOWN

The changing scene in pest control  
technique demanded a new approach  
to the problem of damage caused by  
red spider, mites, leafhoppers, aphids  
and other soft-bodied insects.

To this end, VAPOTONE has been  
developed by ORTHO research. It has  
been proven highly effective in practical  
use under all growing conditions, and  
in all parts of the country.

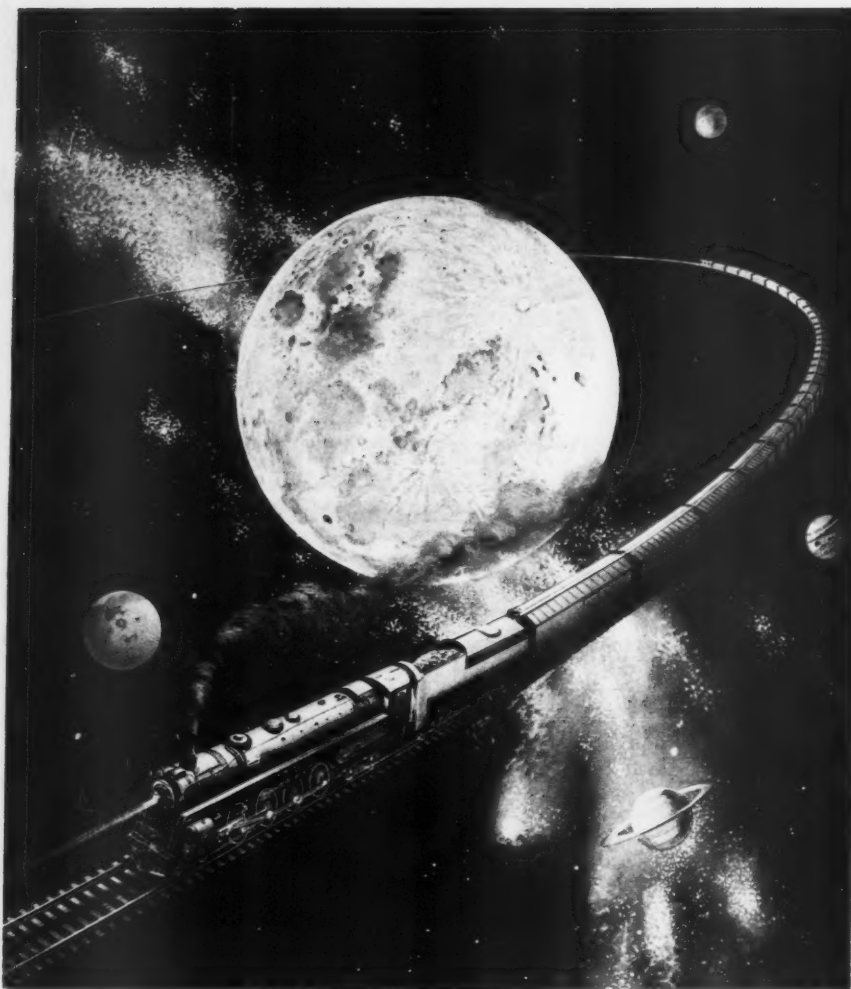
VAPOTONE shows strong, quick  
mastery of these insects by thorough  
spraying as infestation indicates.

VAPOTONE is a contact insecticide of  
high wetting qualities that gives you  
fast action against summer build-up of  
these pests.



We recommend that you consult your  
ORTHO fieldman concerning the place of  
VAPOTONE in your 1947 spray program.

**CALIFORNIA SPRAY-CHEMICAL CORPORATION**  
RICHMOND, CALIFORNIA      ELIZABETH, NEW JERSEY  
PORTLAND, OREGON    KANSAS CITY, MISSOURI    DALLAS, TEXAS    ORLANDO, FLORIDA    LYNDONVILLE, NEW YORK



## Round Trip to the Moon

● A ton of freight to the moon and back! That's one good way to measure the freight moved by American railroads in 1946 for *each* of the men and women on the railroads' payroll.

Working alone—with his bare hands—each one of these railroaders would have accomplished little. But working together and equipped with the right tools—cars and locomotives, tracks and stations, signals and shops—the immense job was handled efficiently and dependably. And it was done at a cost to the nation's shippers averaging only one cent for hauling a ton one mile.

To provide these essential tools, there has been invested nearly \$20,000 per worker, furnished almost wholly by private funds. To improve these tools,

there must be still more investment—which cannot be expected to continue unless railroads have a chance to earn reasonable profits on these funds.

**But during the past twenty-five years—through boom years, depression years and war years—the railroads have averaged a return on their net investment of only 3¼%.**

In 1947, even with the increased rates recently authorized by the Interstate Commerce Commission and with freight traffic continuing at its record-breaking peacetime level, railroads will probably earn only about half the 6% return which nine out of ten people think is no more than a fair profit, and which is necessary to attract continued investment in these essential railroads.

ASSOCIATION OF **AMERICAN RAILROADS** WASHINGTON 6, D.C.

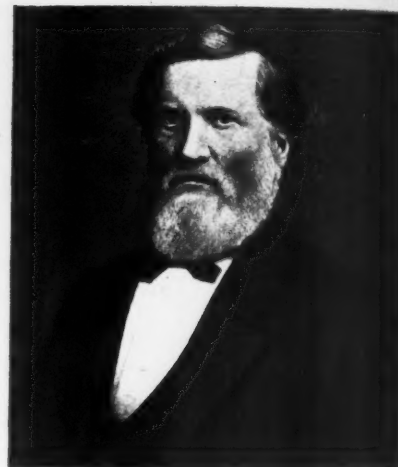


IN PARTNERSHIP WITH ALL AMERICA

## HISTORY OF APPS HORTICULTURE

**T**HE EARLY and Late Crawford peaches were the most famous varieties grown in America during the last half of the 19th Century. They were considered the ultimate in edible flavor and quality. Although these two varieties are no longer grown in any considerable numbers commercially, variations of the Crawfords and varieties of Crawford parentage are still prominent in our commercial variety lists.

In the rush of modern commercial fruit production, it is well to devote a little time and thought to the back-



*William H. Crawford*

ground of varieties and to some features of our present day procedure. Although any mention of the Crawford peaches in horticultural publications usually includes the fact that the varieties were originated by William H. Crawford, it is often the limit of information given regarding their originator.

Several years ago the writer attempted to locate the exact place of origin of these fruits and made the acquaintance of Miss Anna Crawford, daughter of William H. Crawford. Miss Crawford still owned the farm at Crawford's Corner upon which the Crawford peaches originated. She furnished a picture of her father and an account of the Crawford ancestry, which was prepared by Mabel Thatcher Washburn and published in "The Journal of American History," Vol. 12, No. 3—1918. The account begins:

"The surname of Crawford, which represents the family that, ever since

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## ORIGINATOR OF CRAWFORD PEACHES

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the period of the Norman Conquest, has held so high a place and achieved such historic distinction in the chronicles of Scotland, is derived from the Barony of Crawford in Lanarkshire."

"The clear pedigree of the family begins with one Leofwine, whose birthdate cannot be placed much later than the year 1000. He was evidently of Danish blood or ancestry, and lived probably in that part of England known a thousand years ago as Northumberland, which then included a far larger territory than the present English County of the name, Yorkshire, Lancashire, and Durham being then a part of the Kingdom of Northumbria, in which the Danish element was strong among the population, and over which, up to the Norman Conquest, Dane-English Earls ruled as practically independent sovereigns.

From the ancient family of the Crawfords of Ayrshire, Scotland, came to America John Crawford, first of his line in this country. It is believed that he arrived in Massachusetts about 1672. From Massachusetts he went to Long Island, later making his home in Middletown, Monmouth County, New Jersey. He was in Middletown by 1678, when, on December 11 of that year, Richard Gibbons and his wife deeded to John Crawford a house and land in Middletown."

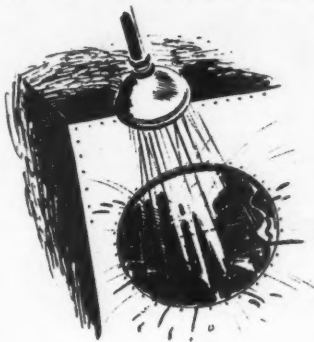
John Crawford, who was the great-great-grandfather of William H. Crawford, bought large tracts of land near Middletown and at Portsmouth on Delaware Bay in Cape May County, and was held in distinction by his community.

William Henry Crawford, the originator of the Early and Late Crawford peaches, was born August 18, 1809, in Monmouth County, near Holmdel. He was educated at Middletown Academy and held a prominent place in public affairs. He was a member of the Baptist Church and a staunch democrat. He died at Crawford-Boune Manor, Dec. 21, 1874.

The exact date of origin of the Early and Late Crawford peaches is not known, but John Kenrick, a famous nurseryman at Newton, Massachusetts, in the eighth edition of his book, *The New American Orchardist*, 1846,

(Continued on page 43)

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U.S. weather compounds meet the force of hurricane rain and wet—and test 100% waterproof! Special rubber coatings and seam binding compounds are proven in advance. They resist stretching, snagging, heat, bending, folding, rubbing.

Science studied how a man stoops, reaches, twists when he works—and these garments set true at neck and shoulder!

### U. S. SAVOY COAT U. S. SQUAM HAT

6 PIECE CROWN  
SWEAT BAND  
REINFORCED BRIM

CORDUROY EDGED  
COLLAR

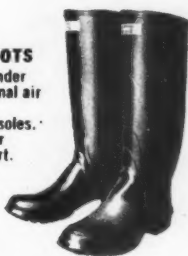
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PATCH POCKETS

BUCKLE FASTENERS

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U. S.  
RUBBER BOOTS  
Leak-tested under  
water by internal air  
pressure.  
"CLEATRED" soles.  
Rocker Last for  
walking comfort.



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HEAVY WORK  
RUBBERS



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U. S. ROYAL  
RUBBER FOOTWEAR



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RAYNSTERS

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ESsential MINeral ELements

Fruit growers are getting healthier, richer fruits with ES-MIN-EL the soil mineralizer that contains all the essential mineral elements—Tasty fruit, rich in vitamins, and a healthier tree—ES-MIN-EL restores the minerals to your soil—You need ES-MIN-EL for finer production...We have many letters of praise from fruit-growers who are using ES-MIN-EL to produce finer fruits—Healthier fruits—Vitamin rich fruits. You, too, will produce finer, healthier, richer crops with ES-MIN-EL. Learn what ES-MIN-EL can do for you today!

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You should know about ES-MIN-EL.

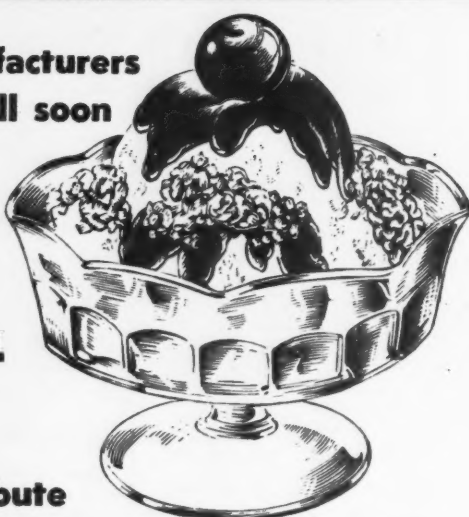
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Write Tennessee Corporation,  
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**Ice Cream Manufacturers**  
have set (and will soon  
realize too) a  
**BILLION  
GALLON**  
a year goal.  
**The COLOSSAL**  
increase in the  
consumption of  
ice cream is a tribute  
to **GOOD TASTE**. That good taste is im-  
portant to you... for much of it is imparted  
by the fruit and nuts you grow!



**ICE CREAM** is a dessert...  
an industry... a market...



**FOR YOU**

**INTERNATIONAL ASSOCIATION OF ICE CREAM MANUFACTURERS**  
BARR BUILDING • WASHINGTON, D. C.

## STATE NEWS

(Continued from page 20)

**MONTANA, May 23**—To date there has been no killing frost and none is expected from now on. Fruit prospects are excellent. Weather has been favorable, resulting in high pollination. A new packing house is under construction at Polson for the south end of the cherry district and the house at Kalispell for the north end is being doubled. Apple conditions are also excellent.—*George L. Knight, Sec'y., Mont. State Hort., Missoula.*

**NEW JERSEY, May 23**—The New Jersey State Horticultural Society will hold a summer fruit meeting at the C. R. Applegate farm in Monmouth County near Freehold on Saturday, June 28. In addition to a short meeting there will be an orchard tour together with exhibits and demonstrations of orchard machinery and equipment.—*Arthur J. Farley, Sec'y., N. J. State Hort. Soc., New Brunswick.*

**NEW YORK, May 23**—The New York State Horticultural Society is planning a summer tour in Michigan on August 4 and 5. Two days will be spent in Michigan with an optional extra day for those who can spend more time.

This has been the worst year for apple scab in Western New York—worse than 1945 or 1946. Have had about 10 infection periods between green tip and bloom.

Bloom on all fruits is heavy, but this does not mean that the crops will be large. On May 24 McIntosh were in full bloom. No frost damage except some on cherries.—*T. E. La Mont, Sec'y., New York State Hort. Soc., Albion.*

**OHIO, May 23**—The Ohio Valley territory of southern and especially southeastern Ohio was visited by one of the latest periods of delayed winter in the history of the state when subfreezing temperatures occurred with apples in full bloom or past on May 7, 8, 9 and 10. Earlier there had been some low ground killing on April 28 and 29.

The aftermath of these freezes leaves southeastern Ohio with a lighter apple crop in prospect than during the past two years. It is mostly a Rome Beauty prospect at present on the higher, more favorable sites. Extremely heavy damage was done to Grimes Golden, Stayman Winesap, and Delicious.

The prospect with all fruits is still reasonably favorable through central and northern Ohio, which is most important, especially for peaches, cherries and grapes. With apples in bloom through Northeastern Ohio during the last week in May it will be several weeks before Ohio crop prospects actually take form and a reasonable production estimate can be given.—*Frank Beach, Sec'y., Ohio State Hort. Soc., Columbus.*

**SOUTH CAROLINA, May 24**—An unusually heavy May drop is now underway, particularly in the Piedmont, accentuated by a month without rain. Some rain fell on the lower Piedmont on May 21, but remainder of peach areas still experiencing drought conditions.

Excellent results have been obtained through the use of Benzene Hexachloride for curculio control. In addition, Hexethyl Tetraphosphate was tried with remarkable results. Aerosol applications by plane, fog generator and ground spray machines were utilized in applying HETP with results from the three methods about equal. However a minor amount of injury has been



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noted where applied by plane or a fog ap-  
plicator, but not present when applied by  
ground spray at the concentration of 1 to  
1600.—Roy J. Ferree, Ext. Hort., Clemson.

**SOUTH DAKOTA, May 23**—All fruit  
trees in the Dakotas have blossomed very  
full, the past week. But the mercury has  
hovered low, and bees were unable to fly  
much. It appears that we will have to de-  
pend on the wind to pollinate the blossoms,  
this year, and yields will probably be less  
than the great amount of blossoming would  
seem to promise. The annual meeting of  
the S.D. State Horticultural Society will be  
held at Rapid City, S.D., on August 19, 20  
and 21st.—W. A. Simmons, Sec'y. S.D.  
State Hort. Sec., Sioux Falls.

**TENNESSEE, May 19**—The Tennessee  
State Horticultural Society will have a  
summer tour in July (exact date determined  
later) which will start in Chattanooga's  
vineyard and apple district, and go to vari-  
ous fruit and nut orchards in northern Geor-  
gia, then to either South Carolina or north-  
ern Alabama where more peach orchards  
will be visited.—J. C. McDaniel, State  
Hort., Nashville.

**WASHINGTON, May 24**—The summer  
meetings of the Washington State Horti-  
cultural Association are scheduled for late  
July and early August. The meeting in the  
Lower Yakima Valley is scheduled for  
July 30. The forenoon will be spent visit-  
ing orchards in the vicinity of Prosser  
and the afternoon will be spent at the Irri-  
gation Branch Experiment Station, and at  
the Quarantine Station at Moxee.

The annual meeting of the Northwest  
Association of Horticulturists, Entomolo-  
gists and Plant Pathologists will take place  
at Yakima, July 31 and August 1 and 2.

The other sessions of the Washington  
State Horticultural Association are sched-  
uled for August 5, 6 and 7. We will start  
at Yakima and go from there to Wenatchee  
and end up at Okanogan. Half of the day  
at Wenatchee will be spent at the Tree  
Fruit Branch Experiment Station.—John  
C. Snyder, Sec'y., Wash. State Hort. Soc.,  
Pullman.

**WISCONSIN, May 20**—A two-day Wis-  
consin Orchard Demonstration meeting will  
be held in mid-September at Sturgeon Bay  
in Door County. All types of orchard ma-  
chinery will be demonstrated and processing  
plants inspected.

Looking forward to an excellent crop of  
apples this year according to present pros-  
pects. The Wisconsin Apple Institute is  
planning an active advertising program to  
popularize Wisconsin apples with Wiscon-  
sin consumers. The beginning will be made  
at the Wisconsin State Fair which will  
feature orchard scenes, model fruit store  
exhibit of apples and fruit products, apple  
grading demonstration, a cherry orchard  
with orchard machinery and cherry canning  
exhibit.

On this date—May 20—crop prospects in  
Wisconsin are very good.—H. J. Rahmlow,  
Sec'y, Wisc. Hort. Soc., Madison.

**GEORGIA, May 26**—Two hail storms a  
week apart caused widespread damage in  
the Ft. Valley peach area. In a few large  
orchards the peach crop was almost entirely  
destroyed. In orchards not too badly dam-  
aged, the hail injured peaches have already  
been thinned off, and other Georgia peach  
sections were undamaged. Crop set was  
heavy, but the May drop has been also  
heavy thus far. Crop estimates are now  
about the same as last year. Growers are  
sparing no expense and making strenuous  
efforts to insure a clean peach crop. It is  
estimated that production costs will be 50  
percent higher than last year.—E. F. Sav-  
age, Georgia Experiment Station.

## TRIPLE SAVINGS

- ✓ SAVE WORK
- ✓ SAVE DUST
- ✓ SAVE CROPS

with the

HUDSON **Stauffer**

**KNAPSACK DUSTER**

It's up on your back—the comfortable,  
work-saving way to carry anything. A  
quick easy push on the lever sends out  
clouds of dust. That's how the Hudson  
Stauffer Knapsack Duster saves you work.

It's a bellows-type duster with an adjust-  
able feed lever. That's why you can dis-  
charge dust in a small puff when you want  
to spot-dust—or in  
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you want complete  
coverage. That's  
how you save dust.  
Its operating  
method assures even  
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particles to deposit

dust on all parts of all plants. That's why  
the Hudson Stauffer Duster gives you better  
control of insect pests and plant disease.

Check these other features: giant capac-  
ity, built-in scoop for easy filling, few mov-  
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a Hudson Stauffer—available now at your  
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Get the whole story in this  
**FREE FOLDER**  
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## DOING THE WORK OF THREE MACHINES!



### ROTOTILLER\* plows, discs, harrows in one operation!

When you have Rototiller,\* you can  
prepare perfect seed beds in one opera-  
tion, with one piece of equipment! You  
eliminate the drudgery of spading, plow-  
ing, discing and harrowing. All the work  
is done by rotating tines, which break  
up and distribute the humus through-  
out the fully pulverized soil.

Rototiller\* is an all-year machine—  
adapted for cultivation simply by adjust-  
ing its depth of cut. If you want to  
control weeds and moisture, and get  
better seed beds with less work . . .

#### SEND COUPON TODAY

FRAZER FARM EQUIPMENT  
Graham-Paige Motors Corporation  
Dept. 16, Willow Run, Michigan  
Please send me additional information about:  
☐ Rototiller ☐ Special Attachments  
☐ Have my dealer call about a demonstration

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POWER TILLER OF A HUNDRED USES  
**FRAZER FARM EQUIPMENT**  
Graham-Paige Motors Corp., Willow Run, Mich.

JUNE, 1947

# The PICK of the PICKERS!



**Jim Dandy WENATCHEE**  
Fruit Picking Bags

are favored by orchardists the country over. They permit more freedom of action, save labor, prevent loss and pay for themselves many times over in a single harvest.

**PREVENT BRUISES and STEM PUNCTURES**

The Wenatchee Bag Empties from the bottom, has steel frame to keep bag open and adjusts from full to half-bushel size for tender fruits. Sturdily made and fits body comfortably with wide adjustable web suspenders.

**WRITE US TODAY**  
for prices, giving dealer's name

**SCHAEFFER & ROSSUM CO.,**  
MANUFACTURERS, ST. PAUL 1, MINN.

Jim Dandy WENATCHEE BAG  
MANUFACTURED BY  
SCHAEFFER & ROSSUM CO.  
ST. PAUL 1, MINN.



## B. G. Pratt, Insecticide Industry Leader, Dies

**B**ENJAMIN G. PRATT, one of the most colorful pioneers of the insecticide industry died April 26 at Hackensack, N.J. President of the B. G. Pratt Company since he and his brother founded it in 1904, "B. G." was active in business until the day of his illness. He was 85 years old last March.

Many fruit growers recall that B. G. was always anxious to help them with their problems. He devoted years to the development and manufacture of spray oils to combat the dreaded San Jose scale which was destroying many orchards more than 40 years ago.

B. G. was a member of the American Pomological Society, the Society of Economic Entomologists, and 16 State Horticultural Societies. Always active, he toured South Africa on a business trip when he was 76.

Born in Hillsboro, N.C., on March 24, 1862, B.G. spent several of his early years helping his father, Rev. H. B. Pratt, who was a Presbyterian missionary in Columbia, South America. Later, in the States, he became a salesman before turning to the soap business which eventually led him to his work with oil sprays.

He is survived by his two sons, William H. and B. G. Pratt, Jr., who will carry on the ideals of their father.

## Heads Washington State Soft Fruit Commission

Charles Morrison, Zillah grower, has been named chairman of the newly-organized Washington State Soft Fruits Commission. Mr. Morrison has been a long time sponsor of the soft fruit bill. Other officers of the commission include Darryl Ormiston, vice chairman and Dan McDonald, treasurer and temporary secretary.



**AMERICAN FRUIT GROWER**

PEACH TREES, PEAR TREES, APPLE TREES, CHERRY TREES, STRAWBERRIES, BOYSENBERRIES, BLACK CAPS, GRAPES, SHRUBS, BLACKBERRIES, CURRANTS, BLUEBERRIES, PERENNIALS, ANNUALS, ROSES, ORNAMENTALS, PHLOX, MUMS, TODAY FOR COLOR CATALOG, ROSES, DAHLIAS, WRITE NEW

**Pride-O-Mich**  
TREES PLANTS

**Emlong NURSERIES, INC.**  
STEVENSVILLE, MICHIGAN BOX 20

## Ottawa Self-Propelled Buzz Master

**CLEAR LAND FAST!** Powerful 6-HP motor with friction clutch for safe operation. Cuts down timber, brush and hedge; turn blade vertically and saw logs to length. Also furnished with post hole diggers. Has clutch pulley for belt work. Fully guaranteed.

**OTTAWA MFG. CO.,** 632 Brush Ave., Ottawa, Kansas



## HAUCK FLAME GUN KILLS WEEDS



2000° F controlled heat quickly, easily destroys seeds, roots, brush, poison ivy, wild morning glory, Canada thistle, other unwanted growths. Many uses: splitting rocks, burning stumps, sterilizing poultry houses. Burns kerosene. Does the work of 4 men. Safe, easy to use. 10 day trial. Satisfaction guaranteed. Free catalog.

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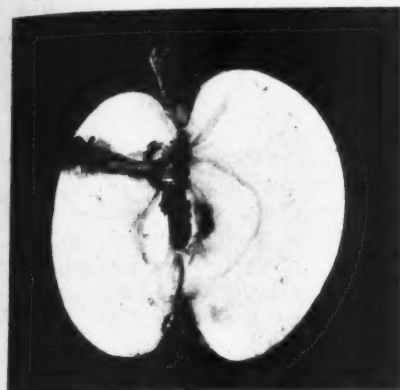


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# CONTROL

APHIDS • RED MITES

CODLING MOTHS



SPRAY WITH

## Syndeet-30

Certain DDT formulations, effective against the codling moth of apples, do not give satisfactory control for European red mites and aphids.

Syndeet-30 controls all three —aphids and red mites as well as codling moths.

The reason? Syndeet-30 is an improved insecticide containing 30% DDT in a synthetic liquid insecticide. Syndeet-30 is, therefore, an extremely potent DDT formulation, capable of controlling many types of insects not ordinarily controlled by DDT alone.

For codling moth  
1 pint per 100 gallons

For mites and aphids  
1 quart per 100 gallons

Write for bulletins on our new  
insecticides, fungicides  
and weed killers.

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## BOOK REVIEWS

• **Plants and Flowers in the Home** (\$2.00), Orange-Judd Pub. Co., by Kenneth Post is a book for amateur growers of plants indoors. It includes chapters on the care of plants, how plants may be used in decorating schemes in the home, types of plants most suitable, the reproduction of plants from seeds, cuttings and divisions, and insects and diseases which may affect the house plants.

• **Pruning Trees and Shrubs** \$2.50, Orange-Judd Pub. Co., by Ephraim Porter Felt has been written especially for the enthusiastic horticulturist with only a few trees and shrubs, but who is interested in giving them the best care. Written in non-technical language, it deals with the most important phases of pruning trees and shrubs, both fruit and ornamental. It explains the best methods for pruning the various types of trees, the reasons for pruning and the time to prune.

• **Acres and People** (\$3.00), Orange-Judd Pub. Co., by Earley Vernon Wilcox is a study of the land and the people in China and India, where every inch of land must be put to use to prevent starvation. Attention of the reader is turned to the circumstances in which these crowded millions live, occurrences in their regular daily life, their hardships, the economies they practice, and their attitude toward life as affected by their living conditions.

• **The Home Freezer Handbook** (\$3.95), D. Van Nostrand Co., a book on easy, sure and practical methods for freezing, has been written by associate professor Gerald J. Stout of Pennsylvania State College. The step-by-step directions given in the book both for the construction of a freezer and preparing foods for it have been carefully tested and proved to work. Details include: how to freeze meats, fruits, vegetables and other special products.

• **DDT and the Insect Problem** (\$2.50), McGraw-Hill Book Co., by James Leary, William Fishbein and Lawrence Salter is the first installment of the story of DDT. This volume brings the latest facts about the development, application and effectiveness of today's Number 1 insect killer and how it is used as a large scale insecticide for crop protection and animal husbandry, as well as for small scale use in eliminating household insects, garden pests, etc.

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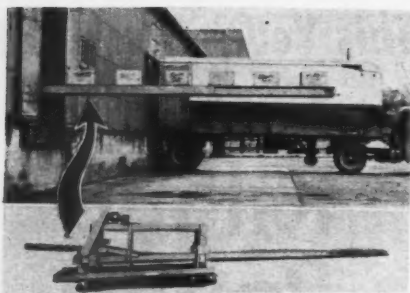
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## UNION PACIFIC BUILDS MODERN ICING DOCK



The new icing dock at Laramie, Wyoming.

COUNTLESS carloads of perishable fruits grown in the western United States owe their fresh appearance on Eastern markets to the huge new Union Pacific icing platform at Laramie, Wyo.

Constructed by the Pacific Fruit Express on the Union Pacific main line, the huge icing platform, largest and most modern in the nation, is used to re-ice produce-laden cars before they begin their long haul eastward across the midwestern plains.

Although Laramie has long been an icing center for east bound cars, the new platform is capable of handling an additional 170 cars.

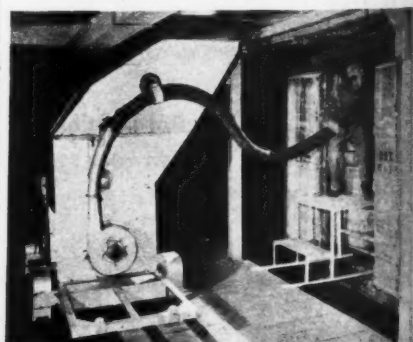
Cars can be bunker iced and top iced simultaneously, with the top icing done by eight giant "slingers" which spray a stream of powdered ice like a fire hose throws water. By means of a hinged metal lip on the nozzle of the flexible rubber hose the ice can be directed to all corners of the car.

The platform, seven-tenths of a mile in length, is of double-deck construction, with bunker icing done from the top deck and top icing done by the "slingers" from the sub-deck.

In an actual test, using three widely separated refrigerator cars, one "slinger" completed the top icing in 31 minutes.

In addition to the platform at Laramie, new icing machines in operation at Council Bluffs, Iowa and Kansas City, Kansas, as well as other points on Southern Pacific, make sure produce reaches eastern markets as fresh as when it left the west coast.

Top icing from the new dock. The worker stands on a non-skid platform.



AMERICAN FRUIT GROWER



From where I sit ... *by* Joe Marsh

## Where Cissy Spent Her Honeymoon

Most of the young newlyweds in our town spend their honeymoon at Roundstone Lake or Jackson Falls; why the Martins even went as far as New York City.

But when Cissy Cupper married the Carter boy, they allowed as how they were going to spend their honeymoon right here.

"There's no better place anywhere than our town," Cissy says. "And I'd like to start married life at home, with things Bud and I are used to."

Makes sense, come to think of it. Folks naturally left them alone;

and except for occasional visits to the Garden Tavern for a glass of beer, they stayed at home, getting used to married bliss.

My missus prefers traveling—and that's her right. But from where I sit, there's no place better for a honeymoon—or second honeymoon—than right at home—with your own possessions, good home cooking, and a friendly glass of beer or two—with the best companion in the world.

*Joe Marsh*

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## BUILDS DOCK



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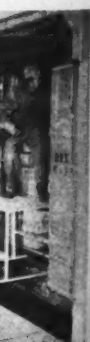
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GROWER

## AIF SPRING MEETING

Mr. G. F. Leonard, president of the Agricultural Insecticide and Fungicide Association, presided at the spring meeting which was held in Rye, New York.

Among the speakers on the program were Dr. William J. Hale of Dow Chemical who spoke on "Progress or Peonage on the Farm"; Mr. Walter Mitchell Jr., vice president of the Irving Trust Co., who discussed "Trade Associations in the Present Economy" and Mr. Frank Irons of the USDA, who gave an address on "Application Equipment for Sprays, Dusts and Other Materials." Mr. Kirk Fox, Editor of Successful Farming, spoke on the topic "Should the Scientist Emulate the Sphinx?" and Mr. Oris V. Wells, chief of the Bureau of Agricultural Economics, USDA discussed "Agricultural Prices." There was also a round table discussion on "Use, Toxicity and Nomenclature of Some Recently Discovered Agricultural Chemicals."



G. F. Leonard

## Packing House Survey

(Continued from page 22)

ed back on the truck and trailer after the apples have been dumped. Another method of getting the truck or trailer to the feed belt is to drive right in the packing house when the floor is at ground level. The cold storage door or the loading door should be at the far end of the grader and near the nailer.

Ways of reducing labor costs are of prime importance both in the orchard and in the packing house. Efficiently organized packing systems will provide reduced costs, and at the same time improve the consumer appearance of the apples.

### ABOUT THE AUTHOR

This survey of apple packing in New York orchards resulted from the thesis written by Mr. Hurd for his Master's degree at Cornell University. The paper was presented at the Kingston meeting of the New York Horticultural Society.

# Good News

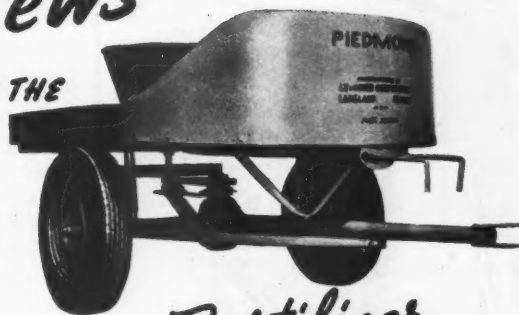
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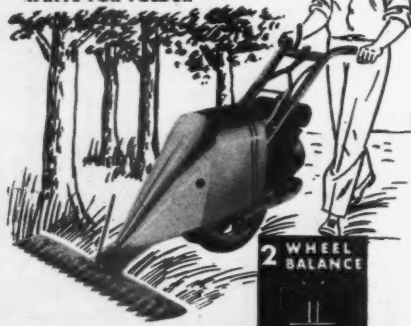
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## My First Storage

(Continued from page 25)

inner wall were to be 4 by 5 by 12 inches. So, by simple calculation, Lutz found that he needed 19,000 tiles. Those for the outer wall cost 13½ cents each, and those for the inner wall, 6½ cents each. These were purchased in 1945, but are now priced higher.

The inside of the outer tile wall was painted with asphalt to prevent the passage of moisture, and between the tile walls, a loose fill of ground cork insulation was poured.

Proper insulation of the floor was essential to maintaining an economical refrigerated room. Soil temperature ranges between 50° and 60° F., and the storage temperature should be kept between 30° and 35° F., therefore, good insulation of the floor is essential to keep soil heat from passing into the storage room.

### Floor Insulation

A layer of waterproof paper was first placed next to the ground. Over this was poured 7 inches of zonalite concrete mix, a good insulating material that has a high tensile strength. This was covered by a 2-inch layer of concrete for a hard wearing surface. Lutz believes this is one of the best types of apple storage floors.

The ceiling of the storage room is of wood, insulated by 8 inches of ground cork. The gable space over the storage room is ventilated by a fan which is placed in the window to help remove the warm air. This space is used as storage space for baskets, crates, and other articles.

The economic amount of refrigeration needed was a problem. Cost of the completed building should not be greater than \$1.00 per bushel of storage capacity, so Lutz again consulted Comin and the refrigeration man. They decided that three 3-horse power, water cooled compressors would be most economical.

You may wonder why three small compressors were installed instead of one or two larger ones. First, the electric current would permit the use of only small motors. Then if one motor or compressor should go bad, there would still be two to carry on the refrigeration. During the winter months little refrigeration is needed, so at that time, Lutz can cut out two



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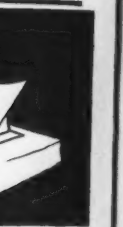
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compressors and use only one to maintain the proper temperature. These factors all make for an economically operated cold storage.

The greatest demand on refrigeration is during the time of loading the storage. At that time the maximum is needed. With his equipment, Lutz is able to load the storage at the rate of 500 bushels or more per day and yet maintain a temperature close to 32 degrees. This of course, will vary with the temperature of the apples when placed in the storage. The warmer they are, the greater will be the load on the refrigeration, and the higher will be the storage temperature.

### Low Room Temperature

In order to maintain as low a room temperature as possible, Lutz leaves the crated apples in the packing room over night to cool. The next morning they are conveyed into the storage at a lower temperature and consequently the load on the refrigeration is reduced. He has practiced this in the past with very good results.

In the future there will be days when storage loadings will run as high as 1,000 bushels per day, but Lutz feels that with proper care and handling, his present equipment will carry the load satisfactorily. He allowed for this in making his plans for refrigeration equipment. However, he assumes the attitude that if increased refrigeration will be needed to properly cool the fruit, he will make the changes needed.

### Careful Planning

One outstanding fact about the Lutz cold storage is the care and planning taken to make it as near perfect as possible. He worked out the details of construction and refrigeration with storage specialists before beginning construction. He planned every detail not only the way he wanted it, but also according to the most satisfactory methods.



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SAVE YOUR TREES WITH TRE-TEX (TRADE-MARK). Sold 41 states, Canada, Mexico in 1946. Used successfully at Orchardview since 1942. Keeps rabbits, mice, ground-hogs, gophers, from gnawing trees. Repellent for tree borer, and waterkill. Use in dust applications—2 to 10—10 sticks. One pound for 50 to 100 trees. Can be applied in 1 hour. Applied when trees are set, lasts one year. Prices: 1 lb. \$1.00; 6 lbs. \$5.00; 10 lbs. \$9.00; 25 lbs. \$20.00; 50 lbs. \$40.00 prepaid. Testimonials and references on request. ORCHARDVIEW, E. L. ECKERLEY, Box 91, Noblesville, Indiana.

CUT YOUR OWN HAIR—Guaranteed Clippers. Electric \$9.75, Hand \$2.49. Free Circular. KERR COMPANY, 2461-FR North Clark Street, Chicago 14, Illinois.

SEND FOR FREE SAMPLE TRAVACO BRUSHLESS Shaving Cream. Made with pure olive oil and lanolin. Many doctors claim it is the best they ever tried. Available for \$1.00 per pound, or 35c one quarter pound. Agents protected. TRAVACO LABORATORIES, P.O. Box 188, G.P.O. Boston 5, Mass.

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DEPENDABLE FRUIT AND NUT TREES, SMALL fruits, Ornamentals, and General Nursery Stock Combined catalogue and Planting Guide free. CUMBERLAND VALLEY NURSERIES, INC., McMinville, Tenn.

STRAWBERRY PLANTS — BLAKEMORE. MISBON: any at 100 for \$2.00; 500 for \$5.00; Postpaid. 1000 for \$5.00. Berries at \$15.00 per 1000. Boysenberry three less at 20c each. JOHN LIGHTFOOT, Birchwood, Tenn.

IMPROVED BLUEBERRIES. DELICIOUS U.S. GOVT Hybrids large as grapes. 2 Yr. Plants 70 cents each. \$8.00 per dozen. 3 Yr. Bearing Age Plants \$1.35 each. \$15.50 doz. GEO. C. MORSE, Williamson, New York.

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184 ACRES. 1500 BEARING APPLE TREES, ONE-half mile from Carrollton, Missouri. Large dwelling, barn, electric lights. City gas and water available 500 feet. Good crop prospects. \$24,000. ATWOOD ORCHARD, 1215 Moreland, Jefferson City, Missouri.

ORCHARD AND MODERN HOME FOR SALE. SEVEN acres of apple and peach orchard and a full town block with modern home, hatchery building, 20 x 60 chicken house, barn, and shed. Home has new boiler, stocker, complete bath and plumbing. Expect \$4,000.00 harvest this year—over \$3,000.00 last year. \$8,000.00 possession October first or \$11,000.00 with crop, possession one month after purchase. RALPH C. BROOM, Edgewood, Illinois.

OWNER COMPELLED BY ILLNESS OFFERS 80 ACRES apple orchard. 60 acres bearing. Prospective crop \$5,400 bushels. Fine adequate buildings. Latest new equipment. Baskets and packaging on hand for 15,000 bushels. Since acquiring, 1939, has paid average 10% net, after depreciation on cash price asked. Particulars write OWNER, 749 PARK, Beloit, Wisconsin.

### PATENTS

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PEDIGREED NEW ZEALAND WHITES AND HWT. Chinchilla rabbits Jrs. \$5.00 per pair. MRS. URBAN KINSINGER, Route 1, Salisbury, Pa.

PEDIGREED GIANT CHINCHILLA RABBITS. Reasonable Prices. MOUNTAINVIEW RABBITRY, Route 5, McMinnville, Tennessee.

RAISE GIANT CHINCHILLA RABBITS. YEAR BOUND income. Ideal occupation. Tremendous demand for gorgeous furs, delicious meat. Great scarcity means large profits. We buy your youngsters. WILLOW FARM, Rt. 2, Sellersville, Pa.

### SHELLING PLANT FOR SALE

FOR SALE BLACK WALNUT SHELLING PLANT located in Virginia. Address BLACK WALNUTS, AMERICAN FRUIT GROWER, 1370 Ontario Street, Cleveland 13, Ohio.

### SWEET POTATO PLANTS

SWEET POTATO PLANTS. NANCY HALL, PORTO Ricans. 200 \$1.00; 500 \$1.50; 1000 \$2.50. D. & C. PLANT COMPANY, Gleason, Tennessee.

SWEET POTATO PLANTS. IMPROVED PORTO Ricans and Nancy Halls. 200 \$1.00; 500 \$1.75; 1000 \$3.00. Prepaid. Prompt shipment and safe arrival guaranteed. J. D. DELLINGER, Gleason, Tennessee.

SWEET POTATO PLANTS. IMPROVED NANCY Halls or Porto Ricans. Grown in sunshine, strong, vigorous, well rooted. Carefully packed. Quick shipments. Postpaid. 200 \$1.00; 500 \$1.75; 1000 \$3.00. SMITH PLANT FARMS, Gleason, Tennessee.

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EARLY BIRD TREE BANDS CHEMICALLY TREATED. Kills the Codling Moth. Send orders early. EDWIN H. HOUSE, Saugatuck, Michigan.

BETA-NAPHTHOL TREATED TREE BANDS. THEIR use will conserve the amount of expensive insecticide necessary to control codling moth. M. A. KOELLER, Barry, Illinois.

### TURKEYS

RAISE TURKEYS THE NEW WAY. WRITE FOR FREE information, explaining how to make up to \$5,000 in your own backyard. Address. NATIONAL TURKEYS INSTITUTE, Dept. 233, Columbus, Kansas.

### WELDING

MAGIC ELECTRIC WELDER, 110 VOLT AC-DC: welds, brazes, solders, cuts all metals, easy to use; full directions. Complete with power unit, flame and metallic attachments, carbons, fluxes, rods, mask. Guaranteed One Year. Only \$19.95. Used by the Navy. Splendid for farm use. MAGIC WELDER MFG. CO., 341 1st Canal St., New York, New York.

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### DDT

and the insect problem

By J. C. Leary, former Science Editor, Chicago Daily News, W. I. Fishbein, Epidemiologist, Chicago Board of Health, C. Salter, former Science Editor, Detroit Free Press. 176 pages, 5 1/2 x 8, illustrated.

This book supplies you with the practical information you need to prepare and apply DDT most effectively. Written in non-technical language, it describes the most recent methods and techniques used to destroy specific types of insects and authoritative results of tests made against various insects of importance in agriculture, animal husbandry, forest, orchard, the home, etc. The book includes discussions of DDT's discovery and development, its use during the war, and its chemical make-up. Sent postpaid on receipt of \$2.50. AMERICAN FRUIT GROWER

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AMERICAN FRUIT GROWER

## CORN CENTER DOIN'S



"Cagey rascal, that Snodgrass—campaignin' on them B. F. Goodrich treads the farmers voted 2 to 1 fer!"

B. F. Goodrich tires are built with an open tread—the kind of tread farmers voted for 2 to 1 in a nation-wide poll.

The reason many farmers prefer the B. F. Goodrich tire is that it is built with big, husky bars in pairs—open at both

ends so they can bite into the ground, grip and pull! Then, as the wheel turns, mud and trash drop free—the tire stays clean. When you need tires see your B. F. Goodrich man... get the tread farmers prefer 2 to 1!

An advertisement of The B. F. Goodrich Co., Akron, Ohio



## American Pomological Society

(Continued from page 33)

lists Late Crawford as Crawford's Superb Malacatune and says, "It is the largest, finest and best and most productive of all peaches; a new and splendid fruit, transferred hither in 1840 from Monmouth County, New Jersey. Originated by William Crawford, Esq., of Middletown." In describing Early Crawford, Kenrick does not state when he received it but it must have originated with or before Late Crawford.

From the evidence we may conclude that these two famous peaches were originated by William H. Crawford sometime previous to 1840. At that time he was 31 years of age.

It is of interest to note in connection with the origin of the Crawford peaches that Kenrick in 1840 received from Middletown, N. J., not only the Late Crawford peach but also Smock Free originated by Mr. Smock, of Middletown, Tice's Late Red, originated by Mr. James Tice, and Lafayette Free.—M. A. Blake, New Jersey Experiment Station.

## If I Did It Over Again

(Continued from page 31)

few.

Several small rooms (instead of one large one), separately controlled, for storage of different varieties would be built by many growers. Since some varieties require lower storage temperatures than others, and since the ripening of stored fruit can be controlled, to a certain extent, by the degree of coldness used in storage, separate rooms for varieties, or for ripening control, might be desirable and practical.

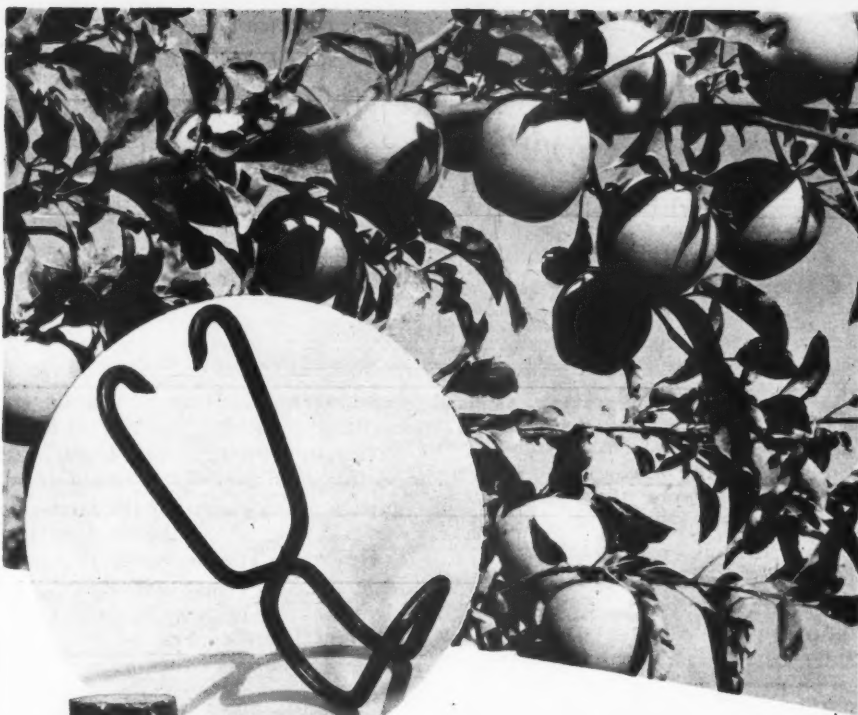
Undoubtedly, there are many other points about their cold storages that growers would like to change. These are the few of them that were mentioned most often in our survey. They are hints by which builders of new storages may profit so they will not have to wish that they could do it over again.

## How Big Shall I Build?

(Continued from page 26)

Consider, when determining the storage size, is allowance for head space and aisles. In this respect, slightly more than 2.5 cubic ft. per bushel is a safe figure, some authorities giving 2.7 or 2.8 cubic ft. as the best figures.

Taking all these facts into consideration, the question of "how big shall I build?" is not quite so enormous as it may have seemed. "Up" is not so high after all!



## A NEW, EASIER WAY TO PROP BRANCHES

Collecting tree props takes a lot of time. Selecting a prop for a particular branch also takes unnecessary time and effort.

Save yourself this trouble and make it easier and safer to prop branches either vertically or horizontally by using . . .

## AFG ADJUSTABLE TREE PROPS

We are not in position to supply AFG tree props in quantities. We will send six AFG tree props FREE with each three-year subscription to AMERICAN FRUIT GROWER so that growers can test the convenience and security of these props.

If you are a subscriber, send us a three-year subscription for a fruit-grower friend, or extend your own subscription. Fill out the coupon below.

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Attached is \$1.00. Send me 6 AFG Tree Props and enter my subscription for AMERICAN FRUIT GROWER for 3 years.

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CLEVELAND 13, OHIO

# Ramblings

## OF A HORTICULTURIST

### Vacationing

**S**UMMER—gay, brilliant, green summer—is the season we look forward to with happy anticipation. It is the time for vacations. And the fruit grower is in as good a position as any tiller of the soil to get away from his duties and with his family enjoy a bit of travel and relaxation. He really should take advantage of his fortunate situation.

One of the happiest duties of vacationing is making the plans, and they should be laid out well in advance of the time of embarkation. Perhaps you have been toying with ideas of places to go and sights to behold. With your new car and good highways threading the nation, you can drive to just about any place within four or five weeks. Should you wish to get to your destination and back quickly, there are fine rail facilities, or even air transportation, to many of the excellent vacationing centers of the country.

**Naturally,** I think of you as fruit growers, or as horticulturists, and, as such, you might be interested in observing and questioning the practices of growers in other parts of the country. This, perhaps will be merely a side issue to your main line of vacationing. But, to pay a friendly visit to a grower's premises in a state other than your own would be quite educational, as well as enjoyable. Every state has some kind of fruit growing and many outstanding growers of merit, so why not include a visit to one of them along your journey? Should you desire the names of some leading fruit growers in various states, just drop a card to AMERICAN FRUIT GROWER, and we may be able to help you locate some along your vacation route.

**Outdoor sports,** and there are loads of them, attract those who are young in body, or in mind and spirit. You may want to spend your time around some highly commercialized vacation center, or, you may be one of those who cherish the remote and wild areas—the lakes, the streams and the mountains, and particularly those which have remained unmolested by the rude

hand of man. Here you can spend exciting moments fishing, canoeing, mountain-climbing, or you may just lie in silken repose, drinking in the quiet, restful beauty of the landscape.

**However,** you may wish to exert a little mental effort and have some pleasant ideas to carry home and relate to your friends. For one, I prefer mountain regions for summer excursions because they afford some of the most thrilling adventures in botany and geology. Nowhere can you discover the extravagance of variety in trees, flowers, ferns and other plants as in the mountains.



Each peak, each little depression, each broad valley has its own individual plant community.

Mountains, colossal monuments to Father Time, are in themselves worth many hours of interesting study and observation. Their rocks and rills hold the keys to innumerable secrets of countless ages gone by. The bird and wildlife inhabitants of mountains offer hours of enchantment to one with a bent towards nature.

**But the traveler** who expects to make his time count in the mountains must, like the schoolboy, prepare his lesson before going to class. A series of books, edited by Roderick Peattie,

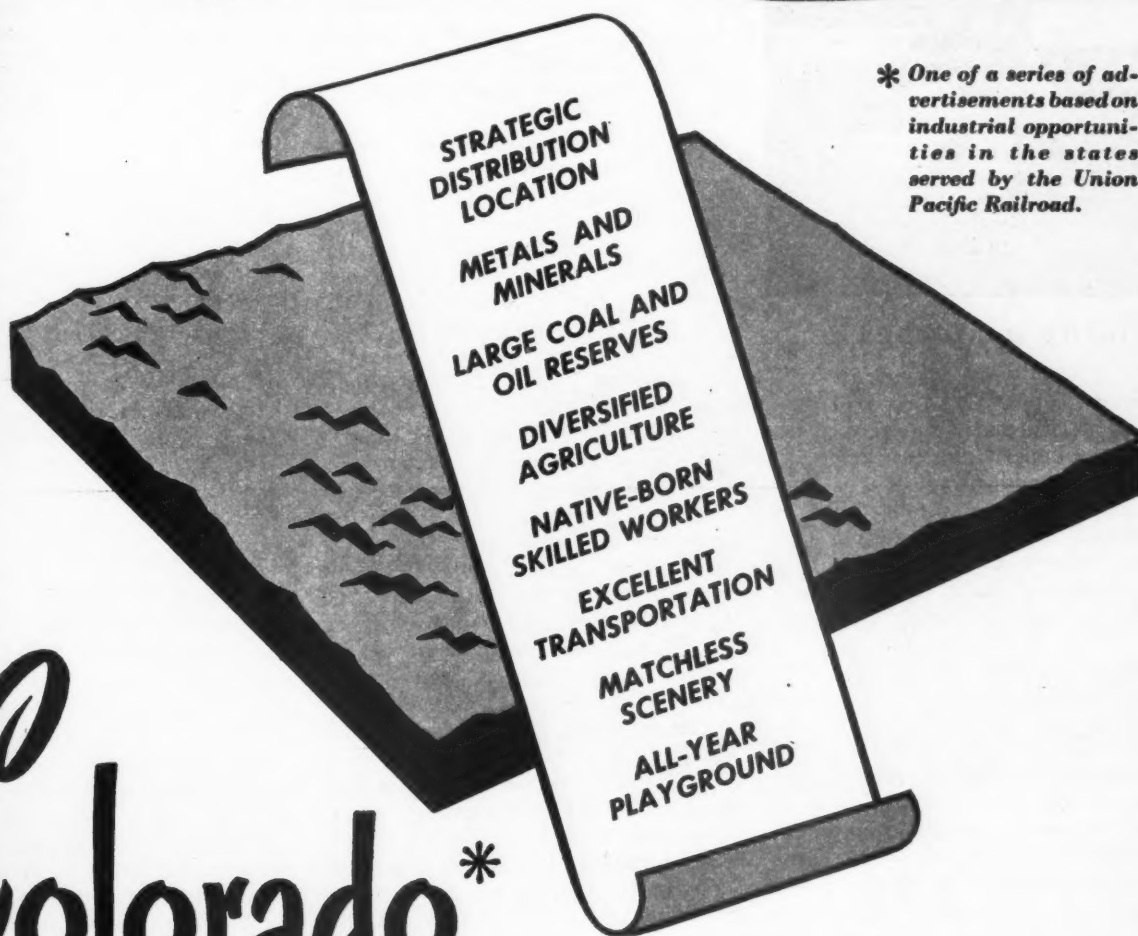
has been written about the mountain ranges in the United States. These and many others dealing with mountain habitats can be procured from practically any library in the country, and they ought to be perused before going into any particular mountain area. This bit of exploratory reading will add understanding to the transpiring beauty of the mountain trail and scene. Read everything you can get hold of before leaving on your journey, and take along guide books, contour maps, as well as handbooks of botany, geology and check lists of birds of the area. Such useful information can be obtained at small cost,

or borrowed from competent students of nature or from libraries. They most certainly should be a part of your traveling bag while on the mountain trail.

**Should you** choose to spend your idle moments in this exciting study of mountain habitats, I am sure you will return home with a feeling that your vacation has been "mighty satisfactory". By all means take your camera, and plenty of film, color film if possible. These pictorial records will give you many happy hours of enjoyment long after your return, and when the joys of your vacation live only as exciting memories.



UNION PACIFIC  
TREASURE MAP OF INDUSTRY



\* One of a series of advertisements based on industrial opportunities in the states served by the Union Pacific Railroad.

# Colorado\*

Colorado offers industry many desirable sites for manufacture, distribution, warehousing, and other purposes. It is strategically located for national distribution.

Diversified agricultural products are of high quality due to favorable climate and soil.

More than 250 useful metallic and non-metallic minerals and compounds have been found, including precious uranium. Timber, oil and coal are practically unlimited.

Native-born skilled labor, and a healthful climate

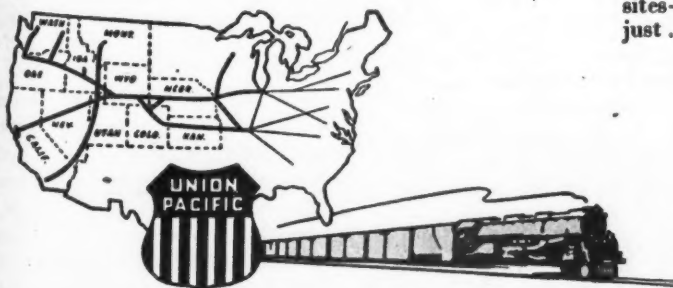
resulting in fewer "time-outs" assure economical production.

Colorado provides sound state economy, modern educational and cultural facilities.

Thousands of vacationists enjoy its mountainous splendor, cool summer breezes and winter sports.

Union Pacific provides Colorado with unexcelled freight and passenger transportation. Every night, over night Streamliner service between Denver-Chicago . . . Denver-St. Louis.

For assistance in securing industrial and commercial sites—and for all-weather, dependable rail service, just . . .



be Specific -  
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\* Address Industrial Department, Union Pacific Railroad, Omaha 2, Nebraska, for information regarding industrial sites.

## UNION PACIFIC RAILROAD

THE STRATEGIC MIDDLE ROUTE

## EDITORIAL PAGE



### Building a Storage

THE SCHOOL of experience is a tough one and it is also an expensive one. It is particularly expensive when the grower undertakes a building project such as a cold storage or a packing house. There are important lessons to be learned before one spends hard earned money for such permanent improvements. Farm buildings as a whole need the same attention in design and construction which makes the industrial building efficient and economical. Such attention is now being given to the building needs of the farmer by the Better Farm Building Association. AMERICAN FRUIT GROWER joined this Association in order to apply the architectural and engineering talent of this organization to the design of orchard buildings. Many growers who have built storages have found later that insufficient space was allowed for grading and sizing machines, or that compressors were being overloaded because insulation was insufficient to maintain temperatures, or that loading and unloading was expensive because of awkward elevations and platforms. It is easy to overlook important details when the grower builds for the first time. The apple storage and packing house plans shown on pages 14 and 15 were drawn by experienced architects after a great deal of study of storage problems. Many experienced growers as well as state experiment stations cooperated in developing these plans and they represent what is in every way a model refrigerated storage and packing house.

### Sweeter Times Coming

A SHORT SUGAR supply which hampered the demand for fresh fruit has been one of the major problems confronting American fruit growers since the beginning of the war, but it now looks as though the problem is beginning to dissolve. This year, when the International Emergency Food Council made recommendations for allotments of sugar to be available to consuming countries, the United

States was granted 6,800,000 short tons (raw value). This meant that the U.S. would get enough sugar to provide about 87 pounds of refined sugar per capita, approaching the pre-war per capita consumption of 96 pounds. After all figures were considered, 35 pounds of sugar per capita are planned for home consumption this year, an increase of 10 pounds over last year.

To the fruit grower, this means that the housewife is going to have enough sugar to do some home canning this year if she uses her sugar wisely. But it also means that the growers will have to show the housewives that this is possible.

If the home consumption for 1947 is 35 pounds per person, then the housewife of a family of five would have 175 pounds for the year, or approximately 14½ pounds per month. It has been estimated that from four to five pounds of sugar are needed for preserving a bushel of peaches, depending of course, upon the sweetness desired, and the sugar content of the fruit. If this is the case, the housewife, with judicious use of her sugar supply, should have enough to do more canning this year than she has done since the beginning of the war.

The validation of a second 10 pound stamp the first of this month was made to help guarantee the housewife that she would get her canning sugar while the necessary transportation was available. The stamp does not increase the ration, since the sugar will have to do until October 31, but the 35 pound allowance is intended to cover home canning needs.

Not only will the housewife be able to do more canning this year, but the canning industries have been better supplied with sugar also. With sugar production in Cuba the highest it has ever been, and with prospects of a sharp increase in European production of beet sugar for their own consumption in the offing, the fruit grower can look at his large peach, pear, cherry, and berry crops this year with satisfaction. Better days are ahead!

### Night Torment

*The scent of blossoms lingers yet,  
The bees have droned, the fruit is set.  
I catch my breath now, when I think  
How blossoms shivered on the brink  
Of that dark, dangerous pool of frost  
In which so much fine fruit is lost.  
They cringed there on the crumbling  
sand—*

*Were pushed by a quiet, chilly hand—  
Were held, suspended in dumb fright  
Above the pool in black, cold night.  
But the hand just dangled them to  
tease,  
And withdrew them from the deadly  
freeze.*

### The June Drop

THE DARWINIAN theory of "survival of the fittest" has its counterpart in the orchard where fruit competes for food from the tree and weak fruits are eliminated by a process which horticultural science has established as the June Drop. It is a highly significant action of nature and one which has an important bearing on many phases of fruit growing. For this reason a great deal of thought and study has been given nature's thinning process and efforts made to discover just what happens when large quantities of fruit are discarded in rapid succession.

Chandler of California who frequently and successfully delves into the mysteries of nature points out that two waves of drop precede the final or June Drop. Apparently, however, the first two drops have little relation to the major drop. They occur to fruit which has not been pollinated. The importance of adequate pollination has been further established by the loss of fruit which has not been completely fertilized. An apple, for instance, which developed only three or four seeds cannot compete with one which has its full complement of ten or more seeds.

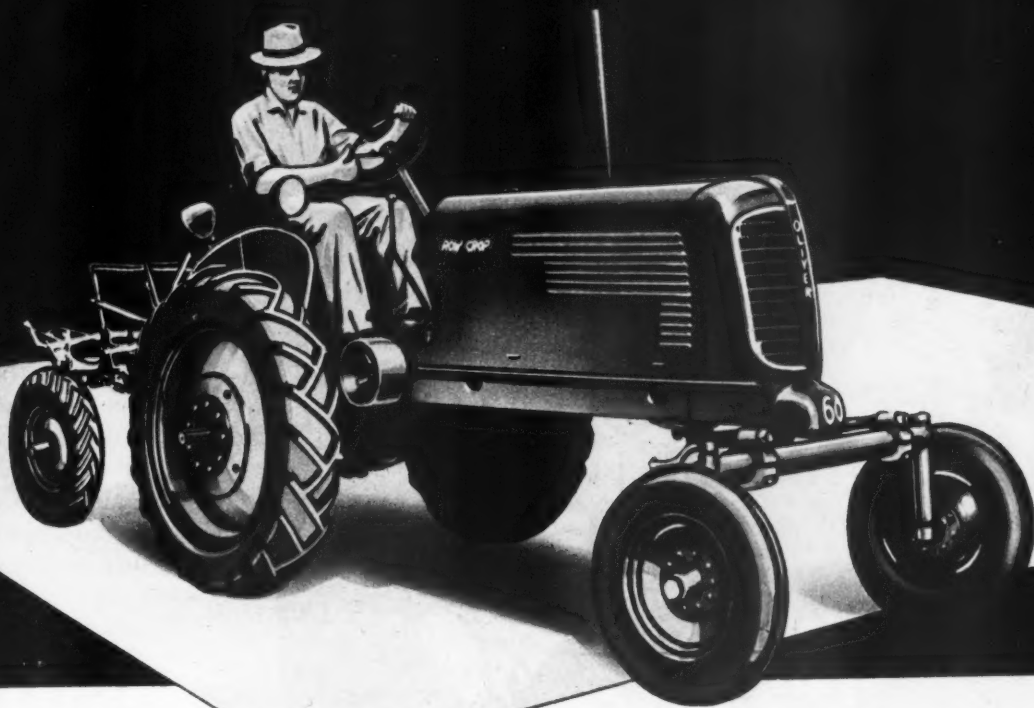
In June when fruit growers frequently become alarmed by the behavior of their trees, nature has selected the fruit which it will nourish to size and color. Investigation of fruit discarded will reveal that it was located on weak wood or near injured leaves or in a cluster, where the centrally located fruit has a distinct advantage in obtaining nourishment. When drops are excessive and beyond mere thinning, there has been frost damage or other irregularities.

What actually takes place when fruit drops is the formation of an abscission layer of cells across the stem. When these cells lose their ability to adhere to one another dropping takes place. Investigation in the field of hormones has brought about some startling things. Minute quantities of growth regulating substances sprayed on the stem definitely prevent the formation of the abscission layer and in that way prevent premature dropping of fruit just before harvest.

After the June Drop the work of manual thinning for greater size and color should be undertaken. In this way, fruit growers expand on the effort already started by nature. Reducing the numbers of fruit makes more food available and gives a higher quality harvest. Because of its effect on the cultural operations and on the quality of fruit harvested, the June Drop deserves the careful attention of all fruit growers.



# A small tractor-but *Good!*



**I**s your farm of a size that calls for a one to two-plow tractor? Or do you use the smaller tractor as a *second* one to give you economy on jobs not needing a lot of power?

In either case, stop and think about *quality* for a moment. A tractor of the one to two-plow size, such as the Oliver 60, becomes the main dependence of the one-tractor farmer. It is often asked to do, and does do, jobs which rightfully belong to its bigger brothers. On multiple tractor farms, the 60, because it is so handy, is often overworked.

These are the reasons why we take such special care in designing and building the Oliver 60. We guard its quality particularly, because we know a small tractor is abused more than a big one. The farmer who buys a small tractor needs *quality* even more.



## OLIVER

**"FINEST IN FARM MACHINERY"**

Here are some of Oliver 60's *quality* features:

- Electric starter
- 4-cylinder *Power Master* high compression engine
- *Fuel Miser* governor
- Comfortable seat
- Ample platform room

*Oliver 60 is available either in high clearance or row crop models.*



# TOUGH . . .



on green and rosy aphids, bud moth, pear psylla, red bug, leafhopper and numerous other insects which damage foliage and fruit. Black Leaf 40 has an established place in fruit spraying programs . . . delayed-dormant and cover.

## DOES DOUBLE DUTY

Black Leaf 40 kills by contact and by fumes— This two-fold action is an advantage not possessed by any non-volatile insecticide (whether poisonous or not) which kills *only* by actual contact.

## COMPATIBLE WITH OTHER SPRAYS

Black Leaf 40 may be used in combination with lime-sulphur, bordeaux mixture, lead arsenate, sulphur compounds and oil emulsions— saving labor of added sprayings.

## ECONOMICAL

Only  $\frac{1}{2}$  to 1 pint of Black Leaf 40 is required to make 100 gallons of highly effective spray.

**Look For  
The Leaf On  
The Package**

**“Black  
Leaf”**



### BLACK LEAF 155

—companion product to Black Leaf 40— meets the demand for a “fixed” nicotine spray. Sticks through rain. Valuable in killing codling moth larvae.

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